United States
Department of
Agriculture

Natural
Resources
Conservation
Service

In cooperation with
North Carolina Agricultural
Research Service; North
Carolina Cooperative
Extension Service;
Albemarle Soil and Water
Conservation District,
Pasquotank Board; and
Pasquotank County Board
of Commissioners

Soil Survey of Pasquotank County, North Carolina

How To Use This Soil Survey

General Soil Map

The general soil map, which is a color map, shows the survey area divided into groups of associated soils called general soil map units. This map is useful in planning the use and management of large areas.

To find information about your area of interest, locate that area on the map, identify the name of the map unit in the area on the color-coded map legend, then refer to the section **General Soil Map Units** for a general description of the soils in your area.

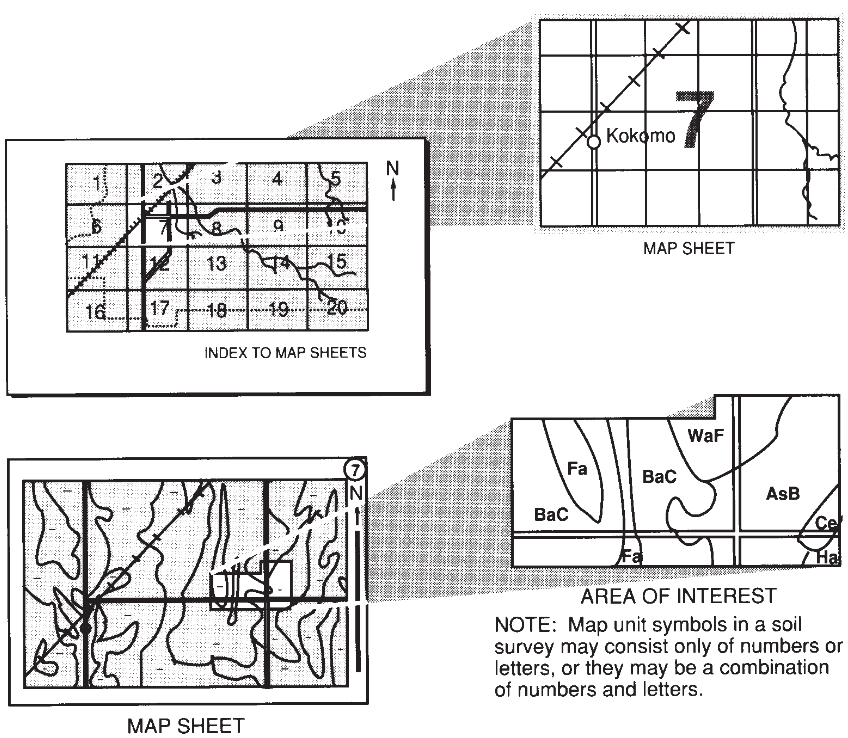
Detailed Soil Maps

The detailed soil maps can be useful in planning the use and management of small areas.

To find information about your area of interest, locate that area on the **Index to Map Sheets**. Note the number of the map sheet and turn to that sheet.

Locate your area of interest on the map sheet. Note the map unit symbols that are in that area. Turn to the **Contents**, which lists the map units by symbol and name and shows the page where each map unit is described.

The **Contents** shows which table has data on a specific land use for each detailed soil map unit. Also see the **Contents** for sections of this publication that may address your specific needs.



NOTE: Map unit symbols in a soil survey may consist only of numbers or letters, or they may be a combination of numbers and letters.

National Cooperative Soil Survey

This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (formerly the Soil Conservation Service) has leadership for the Federal part of the National Cooperative Soil Survey. This survey was made cooperatively by the Natural Resources Conservation Service and the North Carolina Agricultural Research Service; the North Carolina Cooperative Extension Service; the Albemarle Soil and Water Conservation District, Pasquotank Board; and the Pasquotank County Board of Commissioners. The survey is part of the technical assistance furnished to the Albemarle Soil and Water Conservation District.

Major fieldwork for this soil survey was completed in 2005. Soil names and descriptions were approved in 2006. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 2006. The most current official data are available on the Internet at http://websoilsurvey.nrcs.usda.gov/.

Soil maps in this survey may be copied without permission. Enlargement of these maps, however, could cause misunderstanding of the detail of mapping. If enlarged, maps do not show the small areas of contrasting soils that could have been shown at a larger scale.

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Cover Caption

Grain sorghum in an area of Perquimans silt loam, 0 to 2 percent slopes.

Additional information about the Nation's natural resources is available online from the Natural Resources Conservation Service at http://www.nrcs.usda.gov.

Contents

Issued 2008

Foreword

Soil surveys contain information that affects land use planning in survey areas. They include predictions of soil behavior for selected land uses. The surveys highlight soil limitations, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

Soil surveys are designed for many different users. Farmers, foresters, and agronomists can use the surveys to evaluate the potential of the soil and the management needed for maximum food and fiber production. Planners, community officials, engineers, developers, builders, and home buyers can use the surveys to plan land use, select sites for construction, and identify special practices needed to ensure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the surveys to help them understand, protect, and enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. The information in this report is intended to identify soil properties that are used in making various land use or land treatment decisions. Statements made in this report are intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

These and many other soil properties that affect land use are described in this soil survey. The location of each soil is shown on the detailed soil maps. Each soil in the survey area is described, and information on specific uses is given. Help in using this publication and additional information are available at the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

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Soil Survey of
Pasquotank County, North Carolina

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Fieldwork by David T. Knight, Constance M. Adams, and J. Craig Harris, Natural Resources Conservation Service

United States Department of Agriculture, Natural Resources Conservation Service, in cooperation with
North Carolina Agricultural Research Service; North Carolina Cooperative Extension Service; Albemarle Soil and Water Conservation District, Pasquotank Board; and Pasquotank County Board of Commissioners

PASQUOTANK COUNTY is located in northeastern North Carolina (fig. 1) in the Tidewater region of the Coastal Plain, just north of the Albemarle Sound. It is separated from Perquimans County to the west by the Little River, from Camden County to the east by the Pasquotank River, and from Tyrrell County to the south by the Albemarle Sound and is bounded on the northwest by Gates County.

The county has a total area of 185,203 acres, or 289 square miles. About 144,306 acres, or 227 square miles, is land and 40,897 acres, or 63 square miles, is water. According to the 2002 Census of Agriculture, the major land use is cropland and pasture, which accounts for 99,432 acres, or about 69 percent of the land area of the county (USDA, 2002). Soybeans are the primary crop grown in the county. Corn, sorghum, soybeans, wheat, potatoes, and vegetable crops also are grown.

General Nature of the Survey Area

This section provides general information about the survey area. It describes the history and development, the physiography, relief, and drainage, and the climate.

History and Development

Pasquotank County was originally part of the colonial Albemarle County, which was established in 1663. Its present county boundaries were established in 1777 when Camden County was formed out of the land northeast of the Pasquotank River. The county name of Pasquotank comes from the Algonquian Native American tribe word “pasketanki,” which means “where the current of the stream divides or forks.” This was a significant name in colonial days because most settlement occurred near the water because of the opportunities for transportation and trade it provided. In 1793, construction began on a canal through the Great Dismal Swamp to create a commercial waterway from the Elizabeth River in Norfolk, Virginia, to Elizabeth City. Many products were shipped across the Albemarle Sound to Elizabeth City through the Dismal Swamp Canal and then across the Chesapeake Bay in Virginia and into Baltimore, Maryland. Today the Dismal Swamp Canal forms part of the Intracoastal Waterway (Shields, 2000).

Figure 1.—Location of Pasquotank County in North Carolina.

The Nixonton area along the Little River was the first area settled in the county. Nixonton served as the county seat for almost 50 years. In 1799, the county seat was moved to its current location at Elizabeth City, which had been settled at “The Narrows” of the Pasquotank River where the river narrows from the wide outlet at the Albemarle Sound to the winding, narrow river that leads out of the Great Dismal Swamp (Shields, 2000).

According to the Bureau of the Census, the population of Pasquotank County in 2000 was 34,897 (USDC, 2000a). The largest city in the county in 2000, according to the Census, was Elizabeth City with a population of 17,188 (USDC, 2000b).

Physiology, Relief, and Drainage

Pasquotank County is on a nearly level plain, or marine terrace, in the lower Coastal Plain. Elevation ranges from about 1.5 feet above sea level near Wade Point on the Pasquotank River and Albemarle Sound to about 21 feet in the northern-most part of the county in the Great Dismal Swamp.

The Great Dismal Swamp extends down from the north and covers a large portion of the northern half of the county. A large portion of this area has been cleared and drained for agriculture production, and the rest is mainly in woodland.

Most of the land area in the southern half of the county has also been cleared for agriculture, except for the woodlands surrounding the low-lying creeks that drain into the larger water bodies. The north and east parts of the county are drained by the Pasquotank River, the south part is drained by the Albemarle Sound, and the west part is drained by the Little River. A small area of the county on the northwest is drained by the Perquimans River.

Most of the soils in the county have slow or very slow surface drainage and are poorly drained or wetter. Drainage is the main problem for land use and soil management in the county. Most all of the cultivated land in the county uses some form of artificial drainage.

Climate

Prepared by the Natural Resources Conservation Service, National Water and Climate Center, Portland, Oregon.

Climate data are provided in tables 1, 2, and 3. The data were recorded at Elizabeth City, North Carolina, in the period 1971 to 2000.

Thunderstorm days, relative humidity, percent sunshine, and wind information are estimated from the First Order station in Norfolk, Virginia.

In winter, the average temperature is 44.2 degrees F and the average daily minimum temperature is 34.0 degrees. The lowest temperature on record, which occurred on January 21, 1985, is -2 degrees. In summer, the average temperature is 77.8 degrees and the average daily maximum temperature is 87.3 degrees. The highest recorded temperature, which occurred on July 18, 1942, is 107 degrees.

Growing degree days are shown in table 1. They are equivalent to “heat units.” During the month, growing degree days accumulate by the amount that the average temperature each day exceeds a base temperature (50 degrees F). The normal monthly accumulation is used to schedule single or successive plantings of a crop between the last freeze in spring and the first freeze in fall.

The total annual precipitation is about 48.35 inches. Of this, 30.58 inches, or 63 percent, usually falls in April through October. The growing season for most crops falls within this period. The heaviest 1-day rainfall during the period of record was 8.52 inches on September 5, 1979. Thunderstorms occur on about 42 days each year, and most occur in July.

The average seasonal snowfall is about 0.1 inch. The greatest snow depth at any one time during the period of record was 15 inches. On the average, no days of the year have at least 1 inch of snow on the ground. The number of such days varies greatly from year to year.

The average relative humidity in midafternoon is about 57 percent. Humidity is higher at night, and the average at dawn is about 78 percent. The sun shines 64 percent of the time possible in summer and 54 percent in winter. The prevailing wind is from the west-southwest. Average windspeed is highest, 11.3 miles per hour, in March and April.

How This Survey Was Made

This survey was made to provide information about the soils and miscellaneous areas in the survey area. The information includes a description of the soils and miscellaneous areas and their location and a discussion of their suitability, limitations, and management for specified uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They dug many holes to study the soil profile, which is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in the survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

General Soil Map Units

The general soil map in this publication shows broad areas that have a distinctive pattern of soils, relief, and drainage. Each map unit on the general soil map is a unique natural landscape. Typically, it consists of one or more major soils or miscellaneous areas and some minor soils or miscellaneous areas. It is named for the major soils or miscellaneous areas. The components of one map unit can occur in another but in a different pattern.

The general soil map can be used to compare the suitability of large areas for general land uses. Areas of suitable soils can be identified on the map. Likewise, areas where the soils are not suitable can be identified.

Because of its small scale, the map is not suitable for planning the management of a farm or field or for selecting a site for a road or building or other structure. The soils in any one map unit differ from place to place in slope, depth, drainage, and other characteristics that affect management.

1. Belhaven-Pungo

Very deep, very poorly drained soils that have a muck surface layer at least 16 inches thick over a loamy substratum; in pocosins of the Coastal Plain

Setting

Location in the survey area: Northwest part of the county in the area of the Great Dismal Swamp
Landform: Pocosins
Slope range: 0 to 2 percent

Map Unit Composition

Extent of the map unit in the survey area: 9 percent
Extent of the components in the map unit: 85 percent
Belhaven soils—60 percent
Pungo soils—25 percent
Minor components—15 percent; including Conaby and Wasda soils

Soil Characteristics

Belhaven
Surface layer: Dark reddish brown muck and very dark brown mucky loam
Substratum: Upper part—dark grayish brown sandy clay loam; next part—dark gray clay loam; lower part—gray sandy loam
Drainage class: Very poorly drained
Depth to seasonal high water table: 0 to 1.0 foot

Pungo
Surface layer: Black muck
Substratum: Gray loam
Drainage class: Very poorly drained
Depth to seasonal high water table: 0 to 1.0 foot

Minor components
- Conaby and Wasda soils, which have an organic surface layer less than 16 inches thick and are intermingled with areas of the major soils

Land Use

Major uses: Woodland and wildlife habitat

Cropland, pasture, and hayland
Management concerns: Wetness and a high content of logs, stumps, and roots in the organic layers

Woodland
Management concerns: Wetness and a high content of logs, stumps, and roots in the organic layers

Urban development
Management concerns: Wetness, subsidence, excess humus, seepage, and low strength

2. Wasda-Belhaven-Conaby-Pettigrew

Very deep, very poorly drained soils that have a mucky surface layer and a loamy subsoil over a loamy substratum; on marine terraces of the Coastal Plain

Setting

Location in the survey area: Northwest part of the county above the Little River and in the area of the Great Dismal Swamp (fig. 2)
Landform: Marine terraces
Slope range: 0 to 2 percent

Map Unit Composition

Extent of the map unit in the survey area: 10 percent
Extent of the components in the map unit: 83 percent
Wasda soils—30 percent
Belhaven soils—30 percent
Conaby soils—12 percent
Pettigrew soils—11 percent
Minor components—17 percent; including Roper, Cape Lookout, and Deloss soils

Soil Characteristics

Wasda
Surface layer: Black muck and mucky loam
Subsoil: Upper part—very dark gray and very dark grayish brown fine sandy loam; lower part—black sandy clay loam
Substratum: Black clay loam that has common greenish gray iron depletions
Drainage class: Very poorly drained
Depth to seasonal high water table: 0 to 1.0 foot

Belhaven
Surface layer: Dark reddish brown muck and very dark brown mucky loam
Substratum: Upper part—dark grayish brown sandy clay loam; next part—dark gray clay loam; lower part—gray sandy loam
Drainage class: Very poorly drained
Depth to seasonal high water table: 0 to 1.0 foot

Figure 2.—A large field where part of the Great Dismal Swamp was cleared. Organic soils are very productive for cropland. These soils are very poorly drained and have an organic surface layer that is 8 to 16 inches thick.

Conaby

Surface layer: Upper part—black and gray muck; lower part—black mucky sandy loam

Subsoil: Upper part—very dark gray sandy loam; next part—gray sandy loam; lower part—gray and very dark grayish brown sandy loam that has few yellowish brown masses of oxidized iron

Substratum: Greenish gray and gray sandy loam that has common yellowish brown masses of oxidized iron

Drainage class: Very poorly drained

Depth to seasonal high water table: 0 to 1.0 foot

Pettigrew

Surface layer: Black muck and black mucky silt loam

Subsoil: Upper part—gray and very dark gray clay loam that has few strong brown masses of oxidized iron; lower part—light olive gray, dark gray, and very dark gray clay that has many strong brown masses of oxidized iron

Substratum: Grayish green and gray loam that has few yellowish brown and strong brown masses of oxidized iron

Drainage class: Very poorly drained

Depth to seasonal high water table: 0 to 1.0 foot

Minor components

- Roper soils, which have 8 to 16 inches of muck over a silty subsoil and are intermingled with areas of the major soils
- Cape Lookout soils, which have a mineral surface layer over a clayey subsoil and are intermingled with areas of the major soils

- Deloss soils, which have a mineral surface layer over a loamy subsoil and are intermingled with areas of the major soils

Land Use

Major uses: Cropland and woodland

Cropland, pasture, and hayland
Management concerns: Wetness

Woodland
Management concerns: Wetness

Urban Development
Management concerns: Wetness, seepage, and low strength

3. Dorovan-Chowan

Very deep, poorly drained and very poorly drained soils that have a mucky or loamy surface layer over a mucky or loamy substratum; on nearly level flood plains of the Coastal Plain

Setting

Location in the survey area: Along major creeks and rivers throughout the county but especially along Little River, Pasquotank River, New Begun Creek, Little Flatty Creek, and Knobbs Creek
Landform: Flood plains
Slope range: 0 to 2 percent

Map Unit Composition

Extent of the map unit in the survey area: 6 percent
Extent of the components in the map unit: 89 percent
Dorovan soils—63 percent
Chowan soils—26 percent
Minor components—11 percent; including Gertie and Seabrook soils

Soil Characteristics

Dorovan
Surface layer: Very dark brown, dark reddish brown, and very dark brown muck
Drainage class: Very poorly drained
Depth to seasonal high water table: 0 to 0.5 foot

Chowan
Surface layer: Dark grayish brown silt loam
Substratum: Upper part—gray silty clay loam; next part—dark grayish brown silt loam; lower part—black muck
Drainage class: Very poorly drained
Depth to seasonal high water table: 0 to 0.5 foot

Minor components
- Gertie soils, which are poorly drained, have a clayey subsoil, and are on the higher stream terraces adjacent to flood plains
- Seabrook soils, which are moderately well drained, are sandy throughout, and are on the higher stream terraces adjacent to flood plains

Land Use

Major uses: Woodland and wildlife habitat

Cropland, pasture, and hayland
Management concerns: Wetness and frequent flooding

Woodland
Management concerns: Wetness and frequent flooding

Urban development
Management concerns: Wetness, frequent flooding, subsidence, and low strength

4. Hyde-Cape Lookout-Portsmouth

Very deep, very poorly drained soils that have a loamy surface layer and a loamy or clayey subsoil over a loamy, sandy, or clayey substratum; on marine terraces of the Coastal Plain

Setting

Location in the survey area: North-central to west part of the county
Landform: Marine terraces
Slope range: 0 to 2 percent

Map Unit Composition

Extent of the map unit in the survey area: 13 percent
Extent of the components in the map unit: 70
- Hyde soils—29 percent
- Cape Lookout soils—27 percent
- Portsmouth soils—14 percent
- Minor components—30 percent; including Roper, Wasda, Gertie, Deloss, and Tomotley soils

Soil Characteristics

Hyde
Surface layer: Upper part—black mucky silt loam; lower part—very dark grayish brown silt loam
Subsurface layer: Light brownish gray silt loam that has common yellowish brown masses of oxidized iron
Subsoil: Upper part—light brownish gray silt loam that has common yellowish brown masses of oxidized iron; next part—grayish brown silty clay loam that has common strong brown masses of oxidized iron; lower part—grayish brown clay loam that has common yellowish brown and strong brown masses of oxidized iron
Substratum: Light olive gray, light greenish gray, and light yellowish brown sandy loam that has common yellowish brown masses of oxidized iron
Drainage class: Very poorly drained
Depth to seasonal high water table: 0 to 1.0 foot

Cape Lookout
Surface layer: Very dark gray silt loam
Subsoil: Upper part—very dark gray silt loam that has common distinct dark brown and olive yellow masses of oxidized iron; lower part—gray clay that has common dark gray and light gray iron depletions and many light olive brown masses of oxidized iron
Substratum: Upper part—gray clay that has common dark gray and light gray and many greenish gray iron depletions; next part—gray silty clay that has common dark gray and light gray iron depletions; lower part—gray silty clay loam
Drainage class: Very poorly drained
Depth to seasonal high water table: 0 to 1.0 foot

Portsmouth
Surface layer: Black fine sandy loam
Subsurface layer: Gray fine sandy loam
Subsoil: Upper part—gray and dark gray fine sandy loam that has common brownish yellow and yellow masses of oxidized iron; next part—gray and dark gray sandy clay loam that has common yellowish brown, brownish yellow, and yellowish red masses of oxidized iron; lower part—gray, brownish yellow, and reddish yellow sandy loam
Substratum: Upper part—gray sand; lower part—gray and light gray coarse sand
Drainage class: Very poorly drained
Depth to seasonal high water table: 0 to 1.0 foot

Minor components
- Roper soils, which have 8 to 16 inches of muck over a silty subsoil and are intermingled with areas of the major soils
- Wasda soils, which have 8 to 16 inches of muck over a loamy subsoil and are intermingled with areas of the major soils
- Gertie soils, which have a clayey subsoil and are intermingled with areas of the major soils
- Deloss soils, which have a loamy subsoil and are intermingled with areas of the major soils
- Tomotley soils, which are poorly drained, have a loamy subsoil, and are intermingled with areas of the major soils

Land Use

Major uses: Cropland and woodland

Cropland, pasture, and hayland
Management concerns: Wetness

Woodland
Management concerns: Wetness

Urban development
Management concerns: Wetness and low strength; Cape Lookout—low saturated hydraulic conductivity; Portsmouth—seepage and instability of cutbanks

5. Gertie-Perquimans-Tomotley

Very deep, poorly drained soils that have a loamy surface layer and subsoil over a loamy or sandy substratum; on marine terraces of the Coastal Plain

Setting

Location in the survey area: Throughout the county, especially the central and southern parts
Landform: Marine terraces
Slope range: 0 to 2 percent

Map Unit Composition

Extent of the map unit in the survey area: 38 percent
Extent of the components in the map unit: 73 percent
Gertie soils—48 percent
Perquimans soils—15 percent
Tomotley soils—10 percent
Minor components—27 percent; including Hyde, Cape Lookout, Dorovan, Pasquotank, and Chowan soils

Soil Characteristics

Gertie
Surface layer: Very dark brown silt loam
Subsurface layer: Brown silt loam
Subsoil: Upper part—grayish brown silty clay loam that has many strong brown masses of oxidized iron; next part—dark gray silty clay that has common strong brown masses of oxidized iron; lower part—gray silty clay loam that has few strong brown and many yellowish brown masses of oxidized iron
Substratum: Upper part—light yellowish brown loamy sand that has few strong brown masses of oxidized iron and common light brownish gray iron depletions; lower part—light brownish gray loamy sand that has many yellowish brown masses of oxidized iron
Drainage class: Poorly drained
Depth to seasonal high water table: 0 to 1.0 foot

Perquimans
Surface layer: Grayish brown silt loam
Subsurface layer: Light gray silt loam
Subsoil: Upper part—gray silty clay loam that has common brownish yellow masses of oxidized iron; next part—gray silty clay loam that has common light gray iron depletions and many brownish yellow masses of oxidized iron; lower part—light brownish gray silt loam that has common strong brown and olive yellow masses of oxidized iron
Drainage class: Poorly drained
Depth to seasonal high water table: 0 to 1.0 foot

Tomotley
Surface layer: Dark grayish brown fine sandy loam
Subsoil: Upper part—light gray fine sandy loam that has few yellowish brown masses of oxidized iron; next part—light brownish gray sandy clay loam that has common strong brown and yellowish brown masses of oxidized iron; lower part—light brownish gray, gray, and yellowish brown sandy loam
Substratum: Gray loamy sand that has many yellowish brown and strong brown masses of oxidized iron
Drainage class: Poorly drained
Depth to seasonal high water table: 0 to 1.0 foot

Minor components
- Hyde soils, which are very poorly drained, have a silty subsoil, and are intermingled with areas of the major soils
- Cape Lookout soils, which are very poorly drained, have a clayey subsoil, and are intermingled with areas of the major soils
- Dorovan soils, which are very poorly drained, have organic layers more than 51 inches thick, and are on adjacent flood plains
- Pasquotank soils, which have a silty subsoil and are intermingled with areas of the major soils
- Chowan soils, which are very poorly drained, have a silty subsoil over muck, and are on adjacent flood plains

Land Use

Major uses: Cropland and woodland

Cropland, pasture, and hayland
Management concerns: Wetness

Urban development

Management concerns: Wetness and low strength; Gertie—low saturated hydraulic conductivity

6. Chapanoke-Yeopim

Very deep, moderately well drained and somewhat poorly drained soils that have a loamy surface layer and subsoil over a loamy or sandy substratum; on marine terraces of the Coastal Plain

Setting

Location in the survey area: Around the town of Weeksville along New Begun Creek and Symonds Creek and the upper part of Big Flatty Creek

Landform: Marine terraces

Slope range: 0 to 2 percent

Map Unit Composition

Extent of the map unit in the survey area: 6 percent

Extent of the components in the map unit: 40 percent

Chapanoke soils—25 percent

Yeopim soils—15 percent

Minor components—60 percent; including Gertie, Chowan, Nixonton, Wahee, Barclay, Dragston, and Perquimans soils

Soil Characteristics

Chapanoke

Surface layer: Grayish brown silt loam

Subsoil: Upper part—olive yellow loam that has common light brownish gray iron depletions and common brownish yellow masses of oxidized iron; next part—light gray silty clay loam that has common brownish yellow masses of oxidized iron; lower part—gray silt loam that has common brownish yellow and pale yellow masses of oxidized iron

Substratum: Upper part—gray loamy fine sand that has common brownish yellow masses of oxidized iron; lower part—brownish yellow fine sand that has few light brownish gray iron depletions

Drainage class: Somewhat poorly drained

Depth to seasonal high water table: 1.0 to 2.0 feet

Yeopim

Surface layer: Yellowish brown silt loam

Subsoil: Upper part—yellowish brown silty clay loam that has few dark brown masses of oxidized iron; next part—light olive brown loam that has many light olive brown masses of oxidized iron and light olive brown loam that has many gray iron depletions and common yellowish brown masses of oxidized iron; lower part—gray sandy loam that has many strong brown and common light olive brown masses of oxidized iron

Substratum: Light gray, very pale brown, yellow, and strong brown sandy loam

Drainage class: Moderately well drained

Depth to seasonal high water table: 1.5 to 3.0 feet

Minor components

- Gertie soils, which are poorly drained, have a clayey subsoil, and are in depressions
- Chowan soils, which are very poorly drained, have a silty subsoil over muck, and are on adjacent flood plains

- Nixonton soils, which are well drained, have a silty subsoil, and are in the higher landscape positions
- Wahee soils, which are somewhat poorly drained, have a clayey subsoil, and are intermingled with areas of the major soils
- Barclay soils, which are somewhat poorly drained, have a silty subsoil, and are intermingled with areas of the major soils
- Dragston soils, which are somewhat poorly drained, have a loamy subsoil, and are intermingled with areas of the major soils
- Perquimans soils, which are poorly drained, have a silty subsoil, and are in depressions

Land Use

Major uses: Cropland and woodland

Cropland, pasture, and hayland
Management concerns: Wetness

Woodland
Management concerns: Wetness

Urban development
Management concerns: Wetness, seepage, and instability of cutbanks

7. Bertie-Tomotley-Dragston

Very deep, somewhat poorly drained and poorly drained soils that have a loamy surface layer and subsoil over a loamy or sandy substratum; on marine terraces, stream terraces, and flood plains of the Coastal Plain

Setting

Location in the survey area: Around Elizabeth City and along the Pasquotank River and Little River
Landform: Marine terraces, stream terraces, and flood plains
Slope range: 0 to 2 percent

Map Unit Composition

Extent of the map unit in the survey area: 18 percent
Extent of the components in the map unit: 35 percent
Bertie soils—15 percent
Tomotley soils—12 percent
Dragston soils—8 percent
Minor components—65 percent; including Gertie, Dorovan, Tetotum, Munden, Nimmo, Chapanoke, and Chowan soils

Soil Characteristics

Bertie
Surface layer: Dark grayish brown fine sandy loam
Subsoil: Upper part—light olive brown loam that has many dark grayish brown iron depletions; next part—gray silty clay loam that has common light gray iron depletions and many brownish yellow masses of oxidized iron; lower part—light brownish gray silt loam that has common strong brown and olive yellow masses of oxidized iron
Substratum: Upper part—gray loamy sand that has common yellowish brown and light olive brown masses of oxidized iron; lower part—light yellowish brown sand that has common gray iron depletions

Drainage class: Somewhat poorly drained
Depth to seasonal high water table: 1.0 to 2.0 feet

Tomotley
Surface layer: Dark grayish brown fine sandy loam
Subsoil: Upper part—light gray fine sandy loam that has few yellowish brown masses of oxidized iron; next part—light brownish gray sandy clay loam that has common strong brown and yellowish brown masses of oxidized iron; lower part—light brownish gray, gray, and yellowish brown sandy loam
Substratum: Gray loamy sand that has many yellowish brown and strong brown masses of oxidized iron
Drainage class: Poorly drained
Depth to seasonal high water table: 0 to 1.0 foot

Dragston
Surface layer: Dark grayish brown fine sandy loam
Subsurface layer: Light yellowish brown fine sandy loam that has few light brownish gray iron depletions
Subsoil: Upper part—light yellowish brown sandy loam that has few light brownish gray iron depletions; lower part—light brownish gray sandy loam that has common olive yellow masses of oxidized iron
Substratum: Light gray loamy sand that has common light yellowish brown masses of oxidized iron
Drainage class: Somewhat poorly drained
Depth to seasonal high water table: 1.0 to 2.5 feet

Minor components
- Gertie soils, which are poorly drained, have a clayey subsoil, and are in depressions
- Dorovan soils, which are very poorly drained, have organic layers more than 51 inches thick, and are on adjacent flood plains
- Tetotum soils, which are moderately well drained, have a loamy subsoil, and are in the higher landscape positions
- Munden soils, which are moderately well drained, have a loamy subsoil, and are in the higher landscape positions
- Nimmo soils, which are poorly drained, have a loamy subsoil, and are intermingled with areas of the major soils
- Chapanoke soils, which are somewhat poorly drained, have a silty subsoil, and are intermingled with areas of the major soils
- Chowan soils, which are very poorly drained, have a silty subsoil over muck, and are on adjacent flood plains

Land Use

Major uses: Urban development and cropland

Cropland, pasture, and hayland
Management concerns: Wetness

Woodland
Management concerns: Wetness

Urban development
Management concerns: Wetness, seepage, low strength, and instability of cutbanks

Detailed Soil Map Units

The map units delineated on the detailed soil maps in this survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this section, along with the maps, can be used to determine the suitability and potential of a unit for specific uses. They also can be used to plan the management needed for those uses.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. The contrasting components are mentioned in the map unit descriptions. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives the principal hazards and limitations to be considered in planning for specific uses.

Soils that have profiles that are almost alike make up a *soil series*. All the soils of a series have major horizons that are similar in composition, thickness, and arrangement. The soils of a given series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Gertie fine sandy loam, 0 to 2 percent slopes, is a phase of the Gertie series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes. A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Wasda-Conaby complex, 0 to 2 percent slopes, is an example.

This survey includes *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Urban land is an example.

Table 4 lists the map units in this survey area. Other tables give properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils.

ApA—Arapahoe fine sandy loam, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landscape: Coastal plain
Landform: Marine terraces

Map Unit Composition

Arapahoe and similar soils: Typically 90 percent, ranging from about 70 to 95 percent

Typical Profile

Surface layer:
0 to 11 inches—black fine sandy loam
11 to 17 inches—very dark brown fine sandy loam

Subsoil:
17 to 21 inches—dark gray fine sandy loam; common grayish brown iron depletions
21 to 42 inches—dark gray fine sandy loam; common gray iron depletions and dark yellowish brown masses of oxidized iron

Substratum:
42 to 60 inches—gray loamy fine sand
60 to 80 inches—dark greenish gray loamy fine sand

Minor Components

Dissimilar:
- Tetotum soils, which are moderately well drained, have more clay in the subsoil than the Arapahoe soil, and are in the slightly higher landscape positions
- Dragston soils, which are somewhat poorly drained and are in landscape positions similar to those of the Arapahoe soil

Similar:
- Nimmo soils, which are poorly drained and are in landscape positions similar to those of the Arapahoe soil
- Portsmouth soils, which have more clay in the subsoil and are in landscape positions similar to those of the Arapahoe soil

Soil Properties and Qualities

Available water capacity: Moderate (about 7.2 inches)
Slowest saturated hydraulic conductivity: High (about 1.98 in/hr)

Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Very poorly drained
Depth to seasonal high water table: About 0 to 1.0 foot
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Slow
Parent material: Loamy and sandy marine sediments

Use and Management Considerations

Cropland
Suitability: Well suited if drained
- Excessive movement of water through the soil increases the risk of ground-water contamination.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pasture and hayland
Suitability: Well suited if drained
- The seasonal high water table may affect equipment use, grazing patterns, and the viability of grass and legume species.

Woodland
Suitability: Well suited if drained
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Soil wetness may limit the use of log trucks.

Building sites
- This soil generally is not used for residential development. Wetness is the main limitation.

Septic tank absorption fields
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.

Interpretive Groups

Prime farmland: Prime farmland if drained
Land capability class (drained): 3w
Land capability class (undrained): 6w
Hydric soil: Yes

BaA—Barclay silt loam, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landscape: Coastal plain
Landform: Marine terraces

Map Unit Composition

Barclay and similar soils: Typically 90 percent, ranging from about 70 to 95 percent

Typical Profile

Surface layer:
0 to 7 inches—grayish brown silt loam

Subsoil:
7 to 18 inches—pale brown very fine sandy loam; common light yellowish brown masses of oxidized iron
18 to 40 inches—light gray very fine sandy loam; few light yellowish brown masses of oxidized iron
40 to 49 inches—light gray very fine sandy loam; common brownish yellow and very pale brown masses of oxidized iron
49 to 57 inches—light gray fine sandy loam; many yellowish brown and pale brown masses of oxidized iron

Substratum:
57 to 72 inches—light olive gray loamy sand; many light olive brown and yellowish brown masses of oxidized iron

Minor Components

Dissimilar:
- Tetotum soils, which are moderately well drained, have more clay in the subsoil than the Barclay soil, and are in similar landscape positions
- Pasquotank soils, which are poorly drained and are in the slightly lower landscape positions
- Perquimans soils, which are poorly drained, have more clay in the subsoil than the Barclay soil, and are in the slightly lower landscape positions

Similar:
- Chapanoke soils, have more clay in the subsoil than the Barclay soil and are in similar landscape positions

Soil Properties and Qualities

Available water capacity: High (about 10.0 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Somewhat poorly drained
Depth to seasonal high water table: About 1.0 to 1.5 feet
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very high
Parent material: Loamy marine sediments

Use and Management Considerations

Cropland
Suitability: Well suited if drained
- Excessive movement of water through the soil increases the risk of ground-water contamination.
- The risk of compaction increases when the soil is wet.

- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pasture and hayland
Suitability: Well suited if drained
- The seasonal high water table may affect equipment use, grazing patterns, and the viability of grass and legume species.
- Compaction may occur when the soil is wet.

Woodland
Suitability: Well suited if drained
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The low strength of the soil interferes with the construction of haul roads and log landings.
- The low strength of the soil may create unsafe conditions for log trucks.

Building sites
- The seasonal high water table may restrict the period when excavations can be made.
- The high content of sand in the soil increases sloughing and causes cutbanks to be more susceptible to caving.

Septic tank absorption fields
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The excessive movement of water though the soil limits the proper treatment of the effluent from conventional septic systems and may pollute the water table.

Local roads and streets
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.

Interpretive Groups

Prime farmland: Prime farmland if drained
Land capability class (drained): 2w
Land capability class (undrained): 3w
Hydric soil: No

BcA—Belhaven muck, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landscape: Coastal plain
Landform: Marine terraces and pocosins

Map Unit Composition

Belhaven and similar soils: Typically 90 percent, ranging from about 80 to 95 percent

Typical Profile

Surface layer:
0 to 20 inches—dark reddish brown muck
20 to 24 inches—very dark brown mucky loam

Substratum:
24 to 40 inches—dark grayish brown sandy clay loam
40 to 65 inches—dark gray clay loam
65 to 72 inches—gray sandy loam

Minor Components

Dissimilar:
- Pungo soils, which have an organic layer that extends to more than 51 inches and are in landscape positions similar to those of the Belhaven soil
- Roper soils, which have a silty mineral subsoil, have an organic surface that is 16 inches or less thick, and are in landscape positions similar to those of the Belhaven soil
- Wasda soils, which have a loamy mineral subsoil, have an organic surface that is 16 inches or less thick, and are in landscape positions similar to those of the Belhaven soil
- Pettigrew soils, which have a clayey mineral subsoil, have an organic surface that is 16 inches or less thick, and are in landscape positions similar to those of the Belhaven soil

Similar:
- Soils that have a silty subsoil and are in landscapes positions similar to those of the Belhaven soil

Soil Properties and Qualities

Available water capacity: High (about 11.0 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.20 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Very poorly drained
Depth to seasonal high water table: About 0 to 1.0 foot
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very high
Parent material: Highly decomposed organic matter underlain by loamy marine sediments

Use and Management Considerations

Cropland
Suitability: Suited if drained (fig. 3)
- Excessive movement of water through the soil increases the risk of ground-water contamination.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.
- Removing roots and wood fragments helps to increase productivity.

Pasture and hayland
Suitability: Suited if drained
- The seasonal high water table may affect equipment use, grazing patterns, and the viability of grass and legume species.

Woodland
Suitability: Suited if drained

Figure 3.—Soybeans in an area of Belhaven muck, 0 to 2 percent slopes.

- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Soil wetness may limit the use of log trucks.
- Logs and stumps restrict the use of equipment during site preparation for planting or seeding.
- The low strength of the soil interferes with the construction of haul roads and log landings.
- The low strength of the soil may create unsafe conditions for log trucks.

Building sites
- Subsidence makes this soil unsuited to building site development.

Septic tank absorption fields
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Subsidence of the organic material reduces the bearing capacity of the soil.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class (drained): 4w
Land capability class (undrained): 7w
Hydric soil: Yes

BeA—Bertie fine sandy loam, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landscape: Coastal plain
Landform: Marine terraces

Map Unit Composition

Bertie and similar soils: Typically 85 percent, ranging from about 75 to 90 percent

Typical Profile

Surface layer:
0 to 5 inches—dark grayish brown fine sandy loam

Subsoil:
5 to 8 inches—light olive brown loam; many dark grayish brown iron depletions
8 to 15 inches—light olive brown loam; many light olive brown masses of oxidized iron
15 to 23 inches—light olive brown loam; common yellowish brown masses of oxidized iron and many gray iron depletions
23 to 31 inches—gray sandy loam; many strong brown and common light olive brown masses of oxidized iron

Substratum:
31 to 43 inches—gray loamy sand; common yellowish brown and light olive brown masses of oxidized iron
43 to 60 inches—light yellowish brown sand; common gray iron depletions

Minor Components

Dissimilar:
- Tetotum soils, which are moderately well drained and are in landscape positions similar to those of the Bertie soil
- Tomotley soils, which are poorly drained and are in depressions or in landscape positions similar to those of the Bertie soil

Similar:
- Soils that have a thinner subsoil over sandy layers and are in landscape positions similar to those of the Bertie soil

Soil Properties and Qualities

Available water capacity: Moderate (about 8.0 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Somewhat poorly drained
Depth to seasonal high water table: About 1.0 to 2.0 feet
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very high
Parent material: Loamy and sandy marine sediments

Use and Management Considerations

Cropland
Suitability: Suited if drained (fig. 4)

Figure 4.—Cabbage in an area of Bertie fine sandy loam, 0 to 2 percent slopes.

- Excessive movement of water through the soil increases the risk of ground-water contamination.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pasture and hayland
Suitability: Well suited if drained
- The seasonal high water table may affect equipment use, grazing patterns, and the viability of grass and legume species.

Woodland
Suitability: Suited if drained
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Soil wetness may limit the use of log trucks.
- The low strength of the soil interferes with the construction of haul roads and log landings.

Building sites
- The seasonal high water table may restrict the period when excavations can be made.
- The high content of sand in the soil increases sloughing and causes cutbanks to be more susceptible to caving.

Septic tank absorption fields
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.

- The excessive movement of water though the soil limits the proper treatment of the effluent from conventional septic systems and may pollute the water table.

Local roads and streets
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- The low strength of the soil can cause structural damage to local roads and streets.

Interpretive Groups

Prime farmland: Prime farmland if drained
Land capability class (drained): 2w
Land capability class (undrained): 3w
Hydric soil: No

BgA—Bertie-Urban land complex, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landscape: Coastal plain
Landform: Marine terraces

Map Unit Composition

Bertie and similar soils: Typically 50 percent, ranging from about 40 to 60 percent
Urban land and similar areas: Typically 40 percent, ranging from about 35 to 80 percent

Typical Profile

Bertie
Surface layer:
0 to 5 inches—dark grayish brown fine sandy loam

Subsoil:
5 to 8 inches—light olive brown loam; many dark grayish brown iron depletions
8 to 15 inches—light olive brown loam; many light olive brown masses of oxidized iron
15 to 23 inches—light olive brown loam; many gray iron depletions and common yellowish brown masses of oxidized iron
23 to 31 inches—gray sandy loam; many strong brown and common light olive brown masses of oxidized iron

Substratum:
31 to 43 inches—gray loamy sand; common yellowish brown and light olive brown masses of oxidized iron
43 to 60 inches—light yellowish brown sand; common gray iron depletions

Urban land
Urban land consists of areas where more than 85 percent of the soil surface is covered by impervious material, such as streets, buildings, parking lots, and pavement. The soils in these areas have been cut, filled, graded, or otherwise modified to the extent that most soil properties have been altered. Most of the acreage of this map unit is in the business district of Elizabeth City.

Minor Components

Dissimilar:
- Tetotum soils, which are moderately well drained and are in landscape positions similar to those of the Bertie soil

- Tomotley soils, which are poorly drained and are in depressions or in landscape positions similar to those of the Bertie soil

Similar:
- Soils that have a thinner subsoil over sandy layers and are in landscape positions similar to those of the Bertie soil

Soil Properties and Qualities

Bertie
Available water capacity: Moderate (about 8.0 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Somewhat poorly drained
Depth to seasonal high water table: About 1.0 to 2.0 feet
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very high
Parent material: Loamy and sandy marine sediments

Use and Management Considerations

Suitability: The suitability classes for the Bertie soil in this map unit are similar to those noted for Bertie fine sandy loam, 0 to 2 percent slopes. Recommendations for use and management of this soil generally require onsite investigation.

Building sites
- The seasonal high water table may restrict the period when excavations can be made.
- The high content of sand in the soil increases sloughing and causes cutbanks to be more susceptible to caving.

Septic tank absorption fields
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The excessive movement of water though the soil limits the proper treatment of the effluent from conventional septic systems and may pollute the water table.

Local roads and streets
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- The low strength of the soil can cause structural damage to local roads and streets.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 3w
Hydric soil: No

BoA—Bojac loamy fine sand, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landscape: Coastal plain
Landform: Marine terraces and stream terraces

Map Unit Composition

Bojac and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 8 inches—brown loamy fine sand

Subsoil:
8 to 13 inches—yellowish brown fine sandy loam; many dark yellowish brown mottles
13 to 25 inches—yellowish brown fine sandy loam
25 to 37 inches—strong brown fine sandy loam
37 to 47 inches—yellowish brown fine sandy loam; many very pale brown masses of oxidized iron

Substratum:
47 to 70 inches—very pale brown loamy fine sand
70 to 85 inches—yellow coarse sand; common yellowish brown masses of oxidized iron

Minor Components

Dissimilar:
- Munden soils, which are moderately well drained and are in landscape positions similar to those of the Bojac soil
- Seabrook soils, which are moderately well drained, are sandy throughout the profile, and are in landscape positions similar to those of the Bojac soil

Similar:
- Bojac soils that have a thicker sandy surface layer

Soil Properties and Qualities

Available water capacity: Low (about 6.0 inches)
Slowest saturated hydraulic conductivity: High (about 1.98 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal high water table: About 4.0 to 6.0 feet
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very low
Parent material: Loamy and sandy fluvial and marine sediments

Use and Management Considerations

Cropland
Suitability: Well suited
- Blowing sand may damage young plants.

Pasture and hayland
Suitability: Well suited

Woodland
Suitability: Suited
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.

- This soil is well suited to haul roads and log landings.
- This soil is well suited to equipment operations.

Building sites
- The seasonal high water table may restrict the period when excavations can be made.
- The high content of sand in the soil increases sloughing and causes cutbanks to be more susceptible to caving.

Septic tank absorption fields
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The excessive movement of water though the soil limits the proper treatment of the effluent from conventional septic systems and may pollute the water table.

Local roads and streets
- This soil is well suited to local roads and streets.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 2s
Hydric soil: No

CaA—Cape Lookout silt loam, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landscape: Coastal plain
Landform: Pocosins and marine terraces

Map Unit Composition

Cape Lookout and similar soils: Typically 90 percent, ranging from about 70 to 95 percent

Typical Profile

Surface layer:
0 to 7 inches—very dark gray silt loam; few dark brown masses of oxidized iron

Subsoil:
7 to 12 inches—very dark gray silt loam; common dark brown and olive yellow masses of oxidized iron
12 to 16 inches—dark gray clay loam; common olive yellow and dark brown masses of oxidized iron
16 to 37 inches—gray clay; common dark gray and light gray iron depletions and many light olive brown masses of oxidized iron

Substratum:
37 to 42 inches—gray clay; common dark gray and light gray and many greenish gray iron depletions
42 to 50 inches—gray sandy clay loam; common dark gray and light gray iron depletions
50 to 62 inches—gray sandy loam

Minor Components

Dissimilar:
- Arapahoe soils, which have less clay in the subsoil and are in landscape positions similar to those of the Cape Lookout soil

- Deloss and Portsmouth soils, which have less clay in the subsoil and are in landscape positions similar to those of the Cape Lookout soil

Similar:
- Gertie soils, which are poorly drained and are in landscape positions similar to those of the Cape Lookout soil
- Hyde soils, which have a silty subsoil and are in landscape positions similar to those of the Cape Lookout soil

Soil Properties and Qualities

Available water capacity: Moderate (about 8.1 inches)
Slowest saturated hydraulic conductivity: Moderately low (about 0.06 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Very poorly drained
Depth to seasonal high water table: About 0 to 1.0 foot
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Very high
Parent material: Clayey marine sediments

Use and Management Considerations

Cropland
Suitability: Suited if drained
- The high clay content of the soil restricts the rooting depth of crops.
- The risk of compaction increases when the soil is wet.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pasture and hayland
Suitability: Suited if drained
- The seasonal high water table may affect equipment use, grazing patterns, and the viability of grass and legume species.
- Compaction may occur when the soil is wet.

Woodland
Suitability: Suited if drained
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The low strength of the soil interferes with the construction of haul roads and log landings.
- The low strength of the soil may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building sites
- The seasonal high water table may restrict the period when excavations can be made.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.

- The slow movement of water through the soil limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of shrinking and swelling, the use of this soil as base material for local roads and streets is restricted.
- The low strength of the soil is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class (drained): 3w
Land capability class (undrained): 6w
Hydric soil: Yes

CfA—Cape Lookout mucky silt loam, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landscape: Coastal plain
Landform: Pocosins and marine terraces

Map Unit Composition

Cape Lookout and similar soils: Typically 90 percent, ranging from about 75 to 95 percent

Typical Profile

Surface layer:
0 to 8 inches—black mucky silt loam

Subsoil:
8 to 22 inches—very dark gray and gray clay; common dark brown oxidized root channels
22 to 37 inches—light olive gray and dark gray clay; many strong brown and reddish yellow oxidized root channels
37 to 45 inches—gray silty clay; many strong brown masses of oxidized iron
45 to 50 inches—gray silty clay loam; many strong brown masses of oxidized iron

Substratum:
50 to 60 inches—gray silt loam; many strong brown masses of oxidized iron

Minor Components

Dissimilar:
- Arapahoe soils, which have less clay in the subsoil than the Cape Lookout soil and are in similar landscape positions
- Wasda and Conaby soils, which have less clay in the subsoil than the Cape Lookout soil, have an organic surface that is 8 to 16 inches thick, and are in similar landscape positions

Similar:
- Gertie soils, which are poorly drained and are in landscape positions similar to those of the Cape Lookout soil

- Hyde soils, which have a silty subsoil and are in landscape positions similar to those of the Cape Lookout soil

Soil Properties and Qualities

Available water capacity: High (about 9.7 inches)
Slowest saturated hydraulic conductivity: Moderately low (about 0.06 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Very poorly drained
Depth to seasonal high water table: About 0 to 1.0 foot
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Very high
Parent material: Clayey marine sediments

Use and Management Considerations

Cropland
Suitability: Suited if drained
- The high clay content of the soil restricts the rooting depth of crops.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pasture and hayland
Suitability: Suited if drained
- The seasonal high water table may affect equipment use, grazing patterns, and the viability of grass and legume species.

Woodland
Suitability: Suited if drained
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The low strength of the soil interferes with the construction of haul roads and log landings.
- The low strength of the soil may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building sites
- The seasonal high water table may restrict the period when excavations can be made.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slow movement of water through the soil limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of shrinking and swelling, the use of this soil as base material for local roads and streets is restricted.
- The low strength of the soil is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class (drained): 3w
Land capability class (undrained): 6w
Hydric soil: Yes

ChA—Chapanoke silt loam, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landscape: Coastal plain
Landform: Marine terraces

Map Unit Composition

Chapanoke and similar soils: Typically 85 percent, ranging from about 75 to 90 percent

Typical Profile

Surface layer:
0 to 6 inches—grayish brown silt loam

Subsoil:
6 to 12 inches—olive yellow loam; common light brownish gray iron depletions and common brownish yellow masses of oxidized iron
12 to 30 inches—light gray silty clay loam; common brownish yellow masses of oxidized iron
30 to 50 inches—gray silt loam; common brownish yellow and pale yellow masses of oxidized iron

Substratum:
50 to 62 inches—gray loamy fine sand; common brownish yellow masses of oxidized iron
62 to 80 inches—brownish yellow fine sand; few light brownish gray iron depletions

Minor Components

Dissimilar:
- Gertie soils, which are poorly drained, have more clay in the subsoil than the Chapanoke soil, and are in similar landscape positions
- Perquimans soils, which are poorly drained and are in landscape positions similar to those of the Chapanoke soil
- Yeopim soils, which are moderately well drained and are in landscape positions similar to those of the Chapanoke soil

Similar:
- Bertie soils, which have less silt and more sand in the subsoil than the Chapanoke soil and are in similar landscape positions
- Barclay soils, which have less clay in the subsoil than the Chapanoke soil and are in similar landscape positions

Soil Properties and Qualities

Available water capacity: High (about 11.5 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.20 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches

Drainage class: Somewhat poorly drained
Depth to seasonal high water table: About 1.0 to 2.0 feet
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very high
Parent material: Loamy marine sediments

Use and Management Considerations

Cropland
Suitability: Well suited if drained
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pasture and hayland
Suitability: Well suited if drained
- The seasonal high water table may affect equipment use, grazing patterns, and the viability of grass and legume species.
- Compaction may occur when the soil is wet.

Woodland
Suitability: Well suited if drained
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Soil wetness may limit the use of log trucks.
- The low strength of the soil interferes with the construction of haul roads and log landings.
- The low strength of the soil may create unsafe conditions for log trucks.

Building sites
- The seasonal high water table may restrict the period when excavations can be made.
- The high content of sand in the soil increases sloughing and causes cutbanks to be more susceptible to caving.

Septic tank absorption fields
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slow movement of water through the soil limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- The low strength of the soil is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Prime farmland if drained
Land capability class (drained): 2w
Land capability class (undrained): 3w
Hydric soil: No

CsA—Chesapeake fine sandy loam, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landscape: Coastal plain
Landform: Marine terraces and stream terraces

Map Unit Composition

Chesapeake and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 7 inches—dark grayish brown fine sandy loam

Subsoil:
7 to 28 inches—dark yellowish brown sandy clay loam
28 to 52 inches—strong brown sandy loam
52 to 58 inches—yellowish brown loamy sand

Substratum:
58 to 65 inches—brownish yellow sand

Minor Components

Dissimilar:
- Nixonton soils, which have more silt in the subsoil than the Chesapeake soil and are in similar landscape positions
- Tetotum soils, which are moderately well drained and are in landscape positions similar to those of the Chesapeake soil

Similar:
- Bojac soils, which have more sand and less clay in the subsoil than the Chesapeake soil and are in similar landscape positions

Soil Properties and Qualities

Available water capacity: Moderate (about 8.1 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal high water table: About 4.0 to 6.0 feet
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Low
Parent material: Loamy fluvial and marine sediments

Use and Management Considerations

Cropland
Suitability: Well suited
- Planting winter cover crops and using minimum tillage and crop residue management help to control runoff and erosion and maintain tilth.

- No-till planting and the use of field borders and crop rotations that include close growing crops help to conserve soil and water.

Pasture and hayland
Suitability: Well suited
- There are no significant limitations affecting the management of pasture and hayland.

Woodland
Suitability: Well suited
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- This soil is well suited to haul roads and log landings.
- This soil is well suited to equipment operations.

Building sites
- The seasonal high water table may restrict the period when excavations can be made.
- The high content of sand in the soil increases sloughing and causes cutbanks to be more susceptible to caving.

Septic tank absorption fields
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The excessive movement of water though the soil limits the proper treatment of the effluent from conventional septic systems and may pollute the water table.

Local roads and streets
- These soils are well suited to local roads and streets.

Interpretive Groups

Prime farmland: Prime farmland in all areas
Land capability class: 1
Hydric soil: No

CwA—Chowan silt loam, 0 to 2 percent slopes, frequently flooded

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landscape: Coastal plain
Landform: Flood plains

Map Unit Composition

Chowan and similar soils: Typically 90 percent, ranging from about 85 to 100 percent

Typical Profile

Surface layer:
0 to 6 inches—dark grayish brown silt loam

Substratum:
6 to 20 inches—gray silty clay loam
20 to 27 inches—dark grayish brown silt loam
27 to 80 inches—black muck

Minor Components

Similar:
- Soils that have a thinner buried organic layer and are intermingled with areas of the major soil

Soil Properties and Qualities

Available water capacity: Very high (about 12.8 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Very poorly drained
Depth to seasonal high water table: About 0 to 0.5 foot
Water table kind: Apparent
Flooding hazard: Frequent
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very high
Parent material: Loamy marine sediments over highly decomposed organic material

Use and Management Considerations

Cropland
Suitability: Unsuited
- This soil is unsuited to cropland because of wetness and frequent flooding.

Pasture and hayland
Suitability: Unsuited
- This soil is unsuited to pasture because of wetness and frequent flooding.

Woodland
Suitability: Poorly suited
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should focus on streamside management zones and stream crossings and should include general adherence to all applicable best management practices.
- Flooding may damage haul roads.
- Flooding restricts the safe use of roads by log trucks.
- Soil wetness may limit the use of log trucks.
- The low strength of the soil interferes with the construction of haul roads and log landings.

Building sites
- Flooding limits the use of this soil for building site development.
- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields
- Flooding limits the use of this soil for septic tank absorption fields.
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets
- Flooding may damage local roads and streets.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 7w
Hydric soil: Yes

DeA—Deloss mucky fine sandy loam, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landscape: Coastal plain
Landform: Marine terraces

Map Unit Composition

Deloss and similar soils: Typically 90 percent, ranging from about 70 to 95 percent

Typical Profile

Surface layer:
0 to 15 inches—black mucky fine sandy loam

Subsoil:
15 to 39 inches—gray sandy clay loam; common very dark grayish brown and pale brown masses of oxidized iron
39 to 45 inches—gray sandy clay loam; common strong brown masses of oxidized iron

Substratum:
45 to 80 inches—gray fine sandy loam; common brownish yellow masses of oxidized iron

Minor Components

Dissimilar:
- Arapahoe soils, which have more sand and less clay in the subsoil than the Deloss soil and are in similar landscape positions
- Hyde soils, which have more silt in the subsoil than the Deloss soil and are in similar landscape positions

Similar:
- Portsmouth soils, which have thick, sandy horizons within 40 inches of the surface and are in landscape positions similar to those of the Deloss soil

Soil Properties and Qualities

Available water capacity: Moderate (about 8.4 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Very poorly drained
Depth to seasonal high water table: About 0 to 1.0 foot
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low

Runoff class: Very high
Parent material: Loamy marine and fluvial sediments

Use and Management Considerations

Cropland
Suitability: Suited if drained
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pasture and hayland
Suitability: Suited if drained
- The seasonal high water table may affect equipment use, grazing patterns, and the viability of grass and legume species.

Woodland
Suitability: Suited if drained
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Soil wetness may limit the use of log trucks.
- This soil is well suited to haul roads and log landings.

Building sites
- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.

Interpretive Groups

Prime farmland: Prime farmland if drained
Land capability class (drained): 3w
Land capability class (undrained): 6w
Hydric soil: Yes

DoA—Dorovan muck, 0 to 2 percent slopes, frequently flooded

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landscape: Coastal plain
Landform: Flood plains

Map Unit Composition

Dorovan and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 5 inches—very dark brown muck
5 to 70 inches—dark reddish brown and very dark brown muck

Minor Components

Dissimilar:
- Belhaven soils, which have a mineral substratum and are in landscape positions similar to those of the Dorovan soil
- Chowan soils, which have a surface mineral horizon that ranges from 16 to 40 inches thick and are in landscape positions similar to those of the Dorovan soil

Soil Properties and Qualities

Available water capacity: Very high (about 19.7 inches)
Slowest saturated hydraulic conductivity: Unspecified
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Very poorly drained
Depth to seasonal high water table: About 0 to 0.5 foot
Water table kind: Apparent
Flooding hazard: Frequent
Ponding hazard: None
Shrink-swell potential: Unspecified
Runoff class: Very high
Parent material: Highly decomposed organic matter

Use and Management Considerations

Cropland
Suitability: Unsuited
- This soil is unsuited to cropland because of wetness and flooding.

Pasture and hayland
Suitability: Unsuited
- This soil is unsuited to pasture because of wetness and flooding.

Woodland
Suitability: Poorly suited
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should focus on streamside management zones and stream crossings and should include general adherence to all applicable best management practices.
- Flooding may damage haul roads.
- Flooding restricts the safe use of roads by log trucks.
- Soil wetness may limit the use of log trucks.
- The low strength of the soil interferes with the construction of haul roads and log landings.
- The low strength of the soil may create unsafe conditions for log trucks.

Building sites
- Flooding limits the use of this soil for building site development.
- Subsidence makes this soil unsuited to building site development.

Septic tank absorption fields
- Flooding limits the use of this soil for septic tank absorption fields.
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets
- Flooding may damage local roads and streets.

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Subsidence of the organic material reduces the bearing capacity of the soil.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 7w
Hydric soil: Yes

DrA—Dragston fine sandy loam, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landscape: Coastal plain
Landform: Marine terraces and stream terraces

Map Unit Composition

Dragston and similar soils: Typically 80 percent, ranging from about 70 to 90 percent

Typical Profile

Surface layer:
0 to 6 inches—dark grayish brown fine sandy loam

Subsurface layer:
6 to 10 inches—light yellowish brown fine sandy loam; few light brownish gray iron depletions

Subsoil:
10 to 16 inches—light yellowish brown sandy loam; few light brownish gray iron depletions
16 to 42 inches—light brownish gray sandy loam; common olive yellow masses of oxidized iron

Substratum:
42 to 60 inches—light gray loamy sand; common light yellowish brown masses of oxidized iron

Minor Components

Dissimilar:
- Arapahoe soils, which are very poorly drained and are in landscape positions similar to those of the Dragston soil
- Nimmo soils, which are poorly drained and are in landscape positions similar to those of the Dragston soil
- Wahee soils, which have more clay in the subsoil than the Dragston soil and are in similar landscape positions

Similar:
- Bertie soils, which have more clay in the subsoil than the Dragston soil and are in similar landscape positions
- Munden soils, which are moderately well drained and are in landscape positions similar to those of the Dragston soil

Soil Properties and Qualities

Available water capacity: Moderate (about 6.3 inches)
Slowest saturated hydraulic conductivity: High (about 1.98 in/hr)

Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Somewhat poorly drained
Depth to seasonal high water table: About 1.0 to 2.5 feet
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very low
Parent material: Loamy marine or fluvial sediments

Use and Management Considerations

Cropland
Suitability: Well suited if drained
- Excessive movement of water through the soil increases the risk of ground-water contamination.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pasture and hayland
Suitability: Well suited if drained
- The seasonal high water table may affect equipment use, grazing patterns, and the viability of grass and legume species.

Woodland
Suitability: Well suited if drained
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Soil wetness may limit the use of log trucks.
- This soil is well suited to haul roads and log landings.

Building sites
- The seasonal high water table may restrict the period when excavations can be made.
- The high content of sand in the soil increases sloughing and causes cutbanks to be more susceptible to caving.

Septic tank absorption fields
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The excessive movement of water though the soil limits the proper treatment of the effluent from conventional septic systems and may pollute the water table.

Local roads and streets
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class (drained): 2w
Land capability class (undrained): 3w
Hydric soil: No

DuA—Dragston-Urban land complex, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landscape: Coastal plain
Landform: Marine terraces and stream terraces

Map Unit Composition

Dragston and similar soils: Typically 60 percent, ranging from about 50 to 70 percent
Urban land and similar areas: Typically 30 percent, ranging from about 25 to 80 percent

Typical Profile

Dragston
Surface layer:
0 to 6 inches—dark grayish brown fine sandy loam

Subsurface layer:
6 to 10 inches—light yellowish brown fine sandy loam; few light brownish gray iron depletions

Subsoil:
10 to 16 inches—light yellowish brown sandy loam; few light brownish gray iron depletions
16 to 42 inches—light brownish gray sandy loam; common olive yellow masses of oxidized iron

Substratum:
42 to 60 inches—light gray loamy sand; common light yellowish brown masses of oxidized iron

Urban land
Urban land consists of areas where more than 85 percent of the soil surface is covered by impervious material, such as streets, buildings, parking lots, and pavement. The soils in these areas have been cut, filled, graded, or otherwise modified to the extent that most soil properties have been altered. Most of the acreage of this map unit is in the business district of Elizabeth City.

Minor Components

Dissimilar:
- Arapahoe soils, which are very poorly drained and are in landscape positions similar to those of the Dragston soil
- Nimmo soils, which are poorly drained and are in landscape positions similar to those of the Dragston soil
- Wahee soils, which have more clay in the subsoil than the Dragston soil and are in similar landscape positions

Similar:
- Bertie soils, which have more clay in the subsoil than the Dragston soil and are in similar landscape positions
- Munden soils, which are moderately well drained and are in landscape positions similar to those of the Dragston soil

Soil Properties and Qualities

Dragston
Available water capacity: Moderate (about 6.3 inches)
Slowest saturated hydraulic conductivity: High (about 1.98 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Somewhat poorly drained
Depth to seasonal high water table: About 1.0 to 2.5 feet
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very low
Parent material: Loamy marine or fluvial sediments

Use and Management Considerations

Suitability: The suitability classes for the Dragston soil in this map unit are similar to those noted for Dragston fine sandy loam, 0 to 2 percent slopes. Recommendations for use and management of this soil generally require onsite investigation.

Building sites
- The seasonal high water table may restrict the period when excavations can be made.
- The high content of sand in the soil increases sloughing and causes cutbanks to be more susceptible to caving.

Septic tank absorption fields
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The excessive movement of water though the soil limits the proper treatment of the effluent from conventional septic systems and may pollute the water table.

Local roads and streets
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class (drained): 2w
Land capability class (undrained): 3w
Hydric soil: No

GeA—Gertie fine sandy loam, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landscape: Coastal plain
Landform: Marine terraces and stream terraces

Map Unit Composition

Gertie and similar soils: Typically 90 percent, ranging from about 70 to 95 percent

Typical Profile

Surface layer:
0 to 8 inches—black fine sandy loam

Subsoil:
8 to 13 inches—gray clay loam; few yellowish brown masses of oxidized iron
13 to 51 inches—gray clay; common brownish yellow and yellowish brown masses of oxidized iron
51 to 58 inches—gray sandy clay loam; many brownish yellow masses of oxidized iron

Substratum:
58 to 80 inches—gray fine sandy loam; common light yellowish brown masses of oxidized iron

Minor Components

Dissimilar:
- Pasquotank, Perquimans, and Tomotley soils, which have less clay in the subsoil than the Gertie soil and are in similar landscape positions

Similar:
- Cape Lookout soils, which are very poorly drained and are in landscape positions similar to those of the Gertie soil
- Hyde soils, which are very poorly drained, have less clay in the subsoil than the Gertie soil, and are in similar landscape positions

Soil Properties and Qualities

Available water capacity: High (about 9.2 inches)
Slowest saturated hydraulic conductivity: Low (about 0.00 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Poorly drained
Depth to seasonal high water table: About 0 to 1.0 foot
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Very high
Parent material: Clayey marine and fluvial sediments

Use and Management Considerations

Cropland
Suitability: Suited if drained
- The high clay content of the soil restricts the rooting depth of crops.
- The risk of compaction increases when the soil is wet.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pasture and hayland
Suitability: Suited if drained
- The seasonal high water table may affect equipment use, grazing patterns, and the viability of grass and legume species.

Woodland
Suitability: Suited if drained

- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Soil wetness may limit the use of log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.
- The low strength of the soil interferes with the construction of haul roads and log landings.
- The low strength of the soil may create unsafe conditions for log trucks.

Building sites
- The seasonal high water table may restrict the period when excavations can be made.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slow movement of water through the soil limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of shrinking and swelling, the use of this soil as base material for local roads and streets is restricted.
- The low strength of the soil is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class (drained): 3w
Land capability class (undrained): 4w
Hydric soil: Yes

GrA—Gertie silt loam, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landscape: Coastal plain
Landform: Marine terraces and stream terraces

Map Unit Composition

Gertie and similar soils: Typically 90 percent, ranging from about 70 to 95 percent

Typical Profile

Surface layer:
0 to 4 inches—very dark brown silt loam

Subsurface layer:
4 to 9 inches—brown silt loam

Subsoil:
9 to 16 inches—grayish brown silty clay loam; many strong brown masses of oxidized iron

16 to 27 inches—dark gray silty clay; common strong brown masses of oxidized iron
27 to 41 inches—gray silty clay loam; few strong brown and many yellowish brown masses of oxidized iron

Substratum:
41 to 64 inches—light yellowish brown loamy sand; few strong brown masses of oxidized iron and common light brownish gray iron depletions
64 to 72 inches—light brownish gray loamy sand; many yellowish brown masses of oxidized iron

Minor Components

Dissimilar:
- Pasquotank, Perquimans, and Tomotley soils, which have less clay in the subsoil than the Gertie soil and are in similar landscape positions

Similar:
- Cape Lookout soils, which are very poorly drained and are in landscape positions similar to those of the Gertie soil
- Hyde soils, which are very poorly drained, have less clay in the subsoil than the Gertie soil, and are in similar landscape positions

Soil Properties and Qualities

Available water capacity: Moderate (about 8.1 inches)
Slowest saturated hydraulic conductivity: Low (about 0.00 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Poorly drained
Depth to seasonal high water table: About 0 to 1.0 foot
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Very high
Parent material: Clayey marine and fluvial sediments

Use and Management Considerations

Cropland
Suitability: Suited if drained
- The high clay content of the soil restricts the rooting depth of crops.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pasture and hayland
Suitability: Suited if drained
- The seasonal high water table may affect equipment use, grazing patterns, and the viability of grass and legume species.
- Compaction may occur when the soil is wet.

Woodland
Suitability: Suited if drained
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.

- Soil wetness may limit the use of log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.
- The low strength of the soil interferes with the construction of haul roads and log landings.
- The low strength of the soil may create unsafe conditions for log trucks.

Building sites
- The seasonal high water table may restrict the period when excavations can be made.
- The high content of sand in the soil increases sloughing and causes cutbanks to be more susceptible to caving.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slow movement of water through the soil limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of shrinking and swelling, the use of this soil as base material for local roads and streets is restricted.
- The low strength of the soil is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class (drained): 3w
Land capability class (undrained): 4w
Hydric soil: Yes

GtA—Gertie silt loam, 0 to 2 percent slopes, frequently flooded

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landscape: Coastal plain
Landform: Marine terraces and stream terraces

Map Unit Composition

Gertie and similar soils: Typically 90 percent, ranging from about 70 to 95 percent

Typical Profile

Surface layer:
0 to 4 inches—very dark brown silt loam

Subsurface layer:
4 to 9 inches—brown silt loam

Subsoil:
9 to 16 inches—grayish brown silty clay loam; many strong brown masses of oxidized iron

16 to 27 inches—dark gray silty clay; common strong brown masses of oxidized iron
27 to 41 inches—gray silty clay loam; few strong brown and many yellowish brown masses of oxidized iron

Substratum:
41 to 64 inches—light yellowish brown loamy sand; few strong brown masses of oxidized iron and common light brownish gray iron depletions
64 to 72 inches—light brownish gray loamy sand; many yellowish brown masses of oxidized iron

Minor Components

Dissimilar:
- Wahee soils, which are somewhat poorly drained and are in landscape positions similar to those of the Gertie soil

Similar:
- Gertie soils that do not flood

Soil Properties and Qualities

Available water capacity: High (about 9.2 inches)
Slowest saturated hydraulic conductivity: Low (about 0.00 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Poorly drained
Depth to seasonal high water table: About 0 to 1.0 foot
Water table kind: Apparent
Flooding hazard: Frequent
Ponding hazard: Rare
Shrink-swell potential: Moderate
Runoff class: Negligible
Parent material: Clayey marine and fluvial sediments

Use and Management Considerations

Cropland
Suitability: Unsuited
- This soil is unsuited to cropland because of wetness and frequent flooding.

Pasture and hayland
Suitability: Unsuited
- This soil is unsuited to pasture because of wetness and frequent flooding.

Woodland
Suitability: Poorly suited
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should focus on streamside management zones and stream crossings and should include general adherence to all applicable best management practices.
- Flooding may damage haul roads.
- Flooding restricts the safe use of roads by log trucks.
- Soil wetness may limit the use of log trucks.
- The low strength of the soil interferes with the construction of haul roads and log landings.
- The low strength of the soil may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites
- Flooding limits the use of this soil for building site development.
- The seasonal high water table may restrict the period when excavations can be made.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields
- Flooding limits the use of this soil for septic tank absorption fields.
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets
- Flooding may damage local roads and streets.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of shrinking and swelling, the use of this soil as base material for local roads and streets is restricted.
- The low strength of the soil is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class (drained): 3w
Land capability class (undrained): 4w
Hydric soil: Yes

HyA—Hyde mucky silt loam, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landscape: Coastal plain
Landform: Marine terraces and pocosins

Map Unit Composition

Hyde and similar soils: Typically 90 percent, ranging from about 70 to 95 percent

Typical Profile

Surface layer:
0 to 7 inches—black mucky silt loam
7 to 13 inches—very dark grayish brown silt loam

Subsurface layer:
13 to 18 inches—light brownish gray silt loam; common yellowish brown masses of oxidized iron

Subsoil:
18 to 29 inches—light brownish gray silt loam; common yellowish brown masses of oxidized iron
29 to 36 inches—light brownish gray silt loam; common yellowish brown masses of oxidized iron
36 to 47 inches—grayish brown silt loam and silty clay loam; common strong brown masses of oxidized iron
47 to 51 inches—grayish brown clay loam; common yellowish brown and strong brown masses of oxidized iron

Substratum:
51 to 60 inches—light olive gray, light greenish gray, and light yellowish brown sandy loam; common yellowish brown masses of oxidized iron

Minor Components

Dissimilar:
- Weeksville soils, which have less clay in the subsoil than the Hyde soil and are in similar landscape positions

Similar:
- Hyde soils that have a silt loam surface layer
- Cape Lookout soils, which have more clay in the subsoil than the Hyde soil and are in similar landscape positions

Soil Properties and Qualities

Available water capacity: High (about 10.3 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.20 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Very poorly drained
Depth to seasonal high water table: About 0 to 1.0 foot
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very high
Parent material: Loamy marine sediments

Use and Management Considerations

Cropland
Suitability: Suited if drained (fig. 5)
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pasture and hayland
Suitability: Suited if drained
- The seasonal high water table may affect equipment use, grazing patterns, and the viability of grass and legume species.

Woodland
Suitability: Suited if drained
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Soil wetness may limit the use of log trucks.
- The low strength of the soil may create unsafe conditions for log trucks.
- The low strength of the soil interferes with the construction of haul roads and log landings.

Building sites
- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.

Figure 5.—Soybeans in an area of Hyde mucky silt loam, 0 to 2 percent slopes.

Local roads and streets
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- The low strength of the soil is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Prime farmland if drained
Land capability class (drained): 3w
Land capability class (undrained): 6w
Hydric soil: Yes

MuA—Munden fine sandy loam, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landscape: Coastal plain
Landform: Marine terraces and stream terraces

Map Unit Composition

Munden and similar soils: Typically 85 percent, ranging from about 70 to 90 percent

Typical Profile

Surface layer:
0 to 8 inches—dark grayish brown fine sandy loam

Subsoil:
8 to 15 inches—yellowish brown sandy loam

15 to 25 inches—yellowish brown loam; common light brown masses of oxidized iron
25 to 32 inches—brown and yellowish brown sandy loam; light brownish gray iron depletions

Substratum:
32 to 62 inches—yellowish brown, light brownish gray, and yellowish red sand

Minor Components

Dissimilar:
- Bojac soils, which are well drained and are in landscape positions similar to those of the Munden soil
- Chesapeake soils, which are well drained, have more clay in the subsoil than the Munden soil, and are in similar landscape positions
- Nimmo soils, which are poorly drained and in the lower landscape positions

Similar:
- Tetotum soils, which have more clay in the subsoil than the Munden soil and are in similar landscape positions

Soil Properties and Qualities

Available water capacity: Low (about 5.7 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Moderately well drained
Depth to seasonal high water table: About 1.5 to 2.5 feet
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very high
Parent material: Loamy and sandy marine and fluvial sediments

Use and Management Considerations

Cropland
Suitability: Well suited
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pasture and hayland
Suitability: Well suited
- No significant limitations affect the management of pasture and hayland.

Woodland
Suitability: Well suited
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- This soil is well suited to haul roads and log landings.
- This soil is well suited to equipment operations.

Building sites
- The seasonal high water table may restrict the period when excavations can be made.
- The high content of sand in the soil increases sloughing and causes cutbanks to be more susceptible to caving.

Septic tank absorption fields
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The excessive movement of water though the soil limits the proper treatment of the effluent from conventional septic systems and may pollute the water table.

Local roads and streets
- This soil is well suited to local roads and streets.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 2w
Hydric soil: No

NmA—Nimmo fine sandy loam, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landscape: Coastal plain
Landform: Marine terraces

Map Unit Composition

Nimmo and similar soils: Typically 80 percent, ranging from about 60 to 90 percent

Typical Profile

Surface layer:
0 to 6 inches—dark grayish brown fine sandy loam

Subsoil:
6 to 25 inches—light brownish gray fine sandy loam; common light yellowish brown masses of oxidized iron

Substratum:
25 to 36 inches—light gray sand; common brownish yellow and strong brown masses of oxidized iron
36 to 48 inches—mottled white, brownish yellow, and strong brown sand
48 to 54 inches—bluish gray sand
54 to 60 inches—gray sand

Minor Components

Dissimilar:
- Dragston soils, which are somewhat poorly drained and are in landscape positions similar to those of the Nimmo soil
- Tetotum soils, which are moderately well drained, have more clay in the subsoil than the Nimmo soil, and are in similar landscape positions
- Tomotley soils, which have more clay in the subsoil than the Nimmo soil and are in similar landscape positions
- Yeopim soils, which are moderately well drained, have more clay and silt in the subsoil than the Nimmo soil, and are in similar landscape positions

Similar:
- Arapahoe soils, which are very poorly drained and are in landscape positions similar to those of the Nimmo soil

Soil Properties and Qualities

Available water capacity: Low (about 5.3 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Poorly drained
Depth to seasonal high water table: About 0 to 1.0 foot
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very high
Parent material: Loamy and sandy marine and fluvial sediments

Use and Management Considerations

Cropland
Suitability: Well suited if drained
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pasture and hayland
Suitability: Well suited if drained
- The seasonal high water table may affect equipment use, grazing patterns, and the viability of grass and legume species.

Woodland
Suitability: Well suited if drained
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Soil wetness may limit the use of log trucks.
- This soil is well suited to haul roads and log landings.

Building sites
- The seasonal high water table may restrict the period when excavations can be made.
- The high content of sand in the soil increases sloughing and causes cutbanks to be more susceptible to caving.

Septic tank absorption fields
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The excessive movement of water though the soil limits the proper treatment of the effluent from conventional septic systems and may pollute the water table.

Local roads and streets
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class (drained): 3w
Land capability class (undrained): 4w
Hydric soil: Yes

NxA—Nixonton-Yeopim complex, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landscape: Coastal plain
Landform: Marine terraces

Map Unit Composition

Nixonton and similar soils: Typically 75 percent, ranging from about 60 to 85 percent
Yeopim and similar soils: Typically 25 percent, ranging from about 15 to 40 percent

Typical Profile

Nixonton
Surface layer:
0 to 6 inches—brown loam
6 to 9 inches—brown and dark yellowish brown loam

Subsoil:
9 to 18 inches—dark yellowish brown clay loam
18 to 24 inches—yellowish brown loam
24 to 35 inches—light olive brown loam

Substratum:
35 to 45 inches—light yellowish brown loam; common light yellowish brown and dark yellowish brown masses of oxidized iron
45 to 50 inches—light olive brown loam; common light gray iron depletions and common dark yellowish brown masses of oxidized
50 to 60 inches—light yellowish brown, light olive gray, and yellowish brown sandy loam; common yellowish brown masses of oxidized iron

Yeopim
Surface layer:
0 to 8 inches—grayish brown loam

Subsoil:
8 to 23 inches—yellowish brown loam
23 to 30 inches—yellowish brown clay loam; few light gray iron depletions and few brownish yellow masses of oxidized iron
30 to 42 inches—yellowish brown clay loam; common light brownish gray iron depletions and common strong brown masses of oxidized iron

Substratum:
42 to 55 inches—light gray loamy sand; common yellowish brown and brown masses of oxidized iron
55 to 62 inches—yellowish brown loamy sand

Minor Components

Dissimilar:
- Soils that have less clay in the subsoil than the major soils and are in similar landscape positions

Soil Properties and Qualities

Nixonton
Available water capacity: High (about 9.5 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.20 in/hr)
Depth class: Very deep (more than 60 inches)

Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal high water table: About 4.0 to 6.0 feet
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Low
Parent material: Loamy and silty marine sediments

Yeopim
Available water capacity: High (about 10.8 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.20 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Moderately well drained
Depth to seasonal high water table: About 1.5 to 3.0 feet
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very high
Parent material: Loamy marine sediments

Use and Management Considerations

Cropland
Suitability: Well suited
- No significant limitations affect cropland management.

Pasture and hayland
Suitability: Well suited
- No significant limitations affect the management of pasture and hayland.

Woodland
Suitability: Well suited
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The low strength of the soil interferes with the construction of haul roads and log landings.
- The low strength of the soil may create unsafe conditions for log trucks.

Building sites
- The seasonal high water table may restrict the period when excavations can be made.
- The high content of sand in the soil increases sloughing and causes cutbanks to be more susceptible to caving.

Septic tank absorption fields
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slow movement of water through the soil limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets
- The low strength of the soil is unfavorable for supporting heavy loads.

Interpretive Groups

Nixonton
Prime farmland: Prime farmland in all areas
Land capability class: 1
Hydric soil: No

Yeopim
Prime farmland: Prime farmland in all areas
Land capability class: 2w
Hydric soil: No

PaA—Pasquotank silt loam, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landscape: Coastal plain
Landform: Marine terraces

Map Unit Composition

Pasquotank and similar soils: Typically 85 percent, ranging from about 70 to 95 percent

Typical Profile

Surface layer:
0 to 6 inches—dark grayish brown silt loam

Subsoil:
6 to 18 inches—light brownish gray loam; common light yellowish brown masses of oxidized iron
18 to 34 inches—gray loam; few olive yellow and yellowish brown masses of oxidized iron
34 to 39 inches—gray loam; common olive yellow and yellowish brown masses of oxidized iron
39 to 44 inches—gray loam; common yellowish brown and light yellowish brown masses of oxidized iron

Substratum:
44 to 53 inches—gray loam; common yellowish brown and light yellowish brown masses of oxidized iron
53 to 60 inches—light olive brown silt loam; common yellowish brown and common light gray iron depletions

Minor Components

Dissimilar:
- Perquimans soils, which have more clay in the subsoil than the Pasquotank soil and are in similar landscape positions

Similar:
- Weeksville soils, which are very poorly drained, have a darker surface than the Pasquotank soil, and are in similar landscape positions

Soil Properties and Qualities

Available water capacity: High (about 11.0 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)

Depth to root-restrictive feature: More than 60 inches
Drainage class: Poorly drained
Depth to seasonal high water table: About 0 to 1.0 foot
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very high
Parent material: Loamy marine sediments

Use and Management Considerations

Cropland
Suitability: Well suited if drained
- The risk of compaction increases when the soil is wet.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pasture and hayland
Suitability: Well suited if drained
- The seasonal high water table may affect equipment use, grazing patterns, and the viability of grass and legume species.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.
- Compaction may occur when the soil is wet.

Woodland
Suitability: Suited if drained
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Soil wetness may limit the use of log trucks.
- The low strength of the soil interferes with the construction of haul roads and log landings.

Building sites
- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.

Interpretive Groups

Prime farmland: Prime farmland if drained
Land capability class (drained): 3w
Land capability class (undrained): 6w
Hydric soil: Yes

PeA—Perquimans silt loam, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landscape: Coastal plain

Landform: Marine terraces

Map Unit Composition

Perquimans and similar soils: Typically 90 percent, ranging from about 70 to 95 percent

Typical Profile

Surface layer:
0 to 5 inches—grayish brown silt loam

Subsurface layer:
5 to 8 inches—light gray silt loam

Subsoil:
8 to 19 inches—gray silty clay loam; common brownish yellow masses of oxidized iron
19 to 31 inches—grayish brown clay loam; common brownish yellow masses of oxidized iron
31 to 50 inches—gray silty clay loam; common light gray iron depletions and many brownish yellow masses of oxidized iron
50 to 62 inches—light brownish gray silt loam; common strong brown and olive yellow masses of oxidized iron

Minor Components

Dissimilar:
- Barclay soils, which are somewhat poorly drained and are in landscape positions similar to those of the Perquimans soil
- Gertie soils, which have more clay in the subsoil than the Perquimans soil and are in similar landscape positions
- Pasquotank soils, which have less clay in the subsoil than the Perquimans soil and are in similar landscape positions
- Tomotley soils, which have more sand and less silt in the subsoil than the Perquimans soil and are in similar landscape positions

Similar:
- Chapanoke soils, which are somewhat poorly drained and are in the slightly higher landscape positions

Soil Properties and Qualities

Available water capacity: High (about 10.6 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.20 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Poorly drained
Depth to seasonal high water table: About 0 to 1.0 foot
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very high
Parent material: Loamy marine sediments

Use and Management Considerations

Cropland
Suitability: Well suited if drained
- The risk of compaction increases when the soil is wet.

- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pasture and hayland
Suitability: Well suited if drained
- The seasonal high water table may affect equipment use, grazing patterns, and the viability of grass and legume species.
- Compaction may occur when the soil is wet.

Woodland
Suitability: Suited if drained
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Soil wetness may limit the use of log trucks.
- The low strength of the soil interferes with the construction of haul roads and log landings.

Building sites
- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- The low strength of the soil is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Prime farmland if drained
Land capability class (drained): 3w
Land capability class (undrained): 6w
Hydric soil: Yes

PgA—Pettigrew muck, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landscape: Coastal plain
Landform: Marine terraces and pocosins

Map Unit Composition

Pettigrew and similar soils: Typically 90 percent, ranging from about 70 to 95 percent

Typical Profile

Surface layer:
0 to 6 inches—black muck
6 to 11 inches—black muck
11 to 16 inches—black mucky loam

Subsoil:
16 to 30 inches—gray and very dark gray clay loam; few strong brown masses of oxidized iron
30 to 37 inches—light olive gray, gray, and very dark gray clay; many strong brown masses of oxidized iron

Substratum:
37 to 60 inches—grayish green and gray loam; few yellowish brown and strong brown masses of oxidized iron

Minor Components

Dissimilar:
- Cape Lookout soils, which have a mineral surface layer and are in landscape positions similar to those of the Pettigrew soil
- Deloss soils, which have a thinner organic surface than the Pettigrew soil, have less clay in the subsoil, and are in similar landscape positions

Similar:
- Wasda soils, which have less clay in the subsoil than the Pettigrew soil and are in similar landscape positions

Soil Properties and Qualities

Available water capacity: High (about 11.3 inches)
Slowest saturated hydraulic conductivity: Low (about 0.00 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Very poorly drained
Depth to seasonal high water table: About 0 to 1.0 foot
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: High
Runoff class: Very high
Parent material: Clayey marine sediments

Use and Management Considerations

Cropland
Suitability: Suited if drained
- The high clay content of the soil restricts the rooting depth of crops.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pasture and hayland
Suitability: Suited if drained
- The seasonal high water table may affect equipment use, grazing patterns, and the viability of grass and legume species.

Woodland
Suitability: Suited if drained
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Soil wetness may limit the use of log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

- The low strength of the soil may create unsafe conditions for log trucks.
- The low strength of the soil interferes with the construction of haul roads and log landings.

Building sites
- The seasonal high water table may restrict the period when excavations can be made.
- Shrinking and swelling of the soil may crack foundations and basement walls.
- The low strength of the soil is unfavorable for supporting heavy loads.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of shrinking and swelling, the use of this soil as base material for local roads and streets is restricted.
- The low strength of the soil is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class (drained): 3w
Land capability class (undrained): 6w
Hydric soil: Yes

PoA—Portsmouth fine sandy loam, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landscape: Coastal plain
Landform: Marine terraces

Map Unit Composition

Portsmouth and similar soils: Typically 85 percent, ranging from about 60 to 95 percent

Typical Profile

Surface layer:
0 to 12 inches—black fine sandy loam

Subsurface layer:
12 to 19 inches—gray fine sandy loam

Subsoil:
19 to 23 inches—gray and dark gray fine sandy loam; common brownish yellow and yellow masses of oxidized iron
23 to 35 inches—gray and dark gray sandy clay loam; common yellowish brown, brownish yellow, and yellowish red masses of oxidized iron
35 to 38 inches—gray, brownish yellow, and reddish yellow sandy loam

Substratum:
38 to 48 inches—gray sand that has bodies of sandy clay loam
48 to 72 inches—gray and light gray coarse sand

Minor Components

Dissimilar:
- Portsmouth soils, which have a mucky surface layer and are in landscape positions similar to those of the Portsmouth soil
- Cape Lookout soils, which have more clay in the subsoil than the Portsmouth soil are in similar landscape positions

Similar:
- Deloss soils, which have a thicker loamy subsoil than the Portsmouth soil and are in similar landscape positions
- Tomotley soils, which are poorly drained and are in landscape positions similar to those of the Portsmouth soil

Soil Properties and Qualities

Available water capacity: Moderate (about 6.4 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: 20 to 40 inches to strongly contrasting textural stratification
Drainage class: Very poorly drained
Depth to seasonal high water table: About 0 to 1.0 foot
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very high
Parent material: Loamy marine sediments

Use and Management Considerations

Cropland
Suitability: Suited if drained
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.
- Excessive movement of water through the soil increases the risk of ground-water contamination.

Pasture and hayland
Suitability: Suited if drained
- The seasonal high water table may affect equipment use, grazing patterns, and the viability of grass and legume species.

Woodland
Suitability: Well suited if drained
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Soil wetness may limit the use of log trucks.
- The low strength of the soil interferes with the construction of haul roads and log landings.

Building sites
- The seasonal high water table may restrict the period when excavations can be made.
- The high content of sand in the soil increases sloughing and causes cutbanks to be more susceptible to caving.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The excessive movement of water though the soil limits the proper treatment of the effluent from conventional septic systems and may pollute the water table.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.

Interpretive Groups

Prime farmland: Prime farmland if drained
Land capability class (drained): 3w
Land capability class (undrained): 6w
Hydric soil: Yes

PrA—Portsmouth mucky fine sandy loam, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landscape: Coastal plain
Landform: Marine terraces

Map Unit Composition

Portsmouth and similar soils: Typically 90 percent, ranging from about 75 to 95 percent

Typical Profile

Surface layer:
0 to 10 inches—black mucky fine sandy loam
10 to 15 inches—light yellowish brown fine sandy loam

Subsurface layer:
15 to 20 inches—grayish brown fine sandy loam

Subsoil:
20 to 34 inches—gray sandy clay loam; common dark yellowish brown masses of oxidized iron
34 to 40 inches—gray sandy loam; few light gray iron depletions and few dark yellowish brown masses of oxidized iron
40 to 55 inches—light gray loamy sand

Minor Components

Dissimilar:

- Portsmouth soils that do not have a mucky surface
- Cape Lookout soils, which have more clay in the subsoil than the Portsmouth soil and are in similar landscape positions

Similar:

- Deloss soils, which have a thicker loamy subsoil than the Portsmouth soil and are in similar landscape positions

Soil Properties and Qualities

Available water capacity: Moderate (about 8.4 inches)
Slowest saturated hydraulic conductivity: Moderately low (about 0.06 in/hr)

Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: 20 to 40 inches to strongly contrasting textural stratification
Drainage class: Very poorly drained
Depth to seasonal high water table: About 0 to 1.0 foot
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very high
Parent material: Loamy marine sediments

Use and Management Considerations

Cropland
Suitability: Suited if drained
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.
- Excessive movement of water through the soil increases the risk of ground-water contamination.

Pasture and hayland
Suitability: Suited if drained
- The seasonal high water table may affect equipment use, grazing patterns, and the viability of grass and legume species.

Woodland
Suitability: Well suited if drained
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Soil wetness may limit the use of log trucks.
- The low strength of the soil interferes with the construction of haul roads and log landings.

Building sites
- The seasonal high water table may restrict the period when excavations can be made.
- The high content of sand in the soil increases sloughing and causes cutbanks to be more susceptible to caving.

Septic tank absorption fields
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The excessive movement of water though the soil limits the proper treatment of the effluent from conventional septic systems and may pollute the water table.

Local roads and streets
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.

Interpretive Groups

Prime farmland: Prime farmland if drained
Land capability class (drained): 3w
Land capability class (undrained): 6w
Hydric soil: Yes

PuA—Pungo woody muck, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landscape: Coastal plain
Landform: Pocosins

Map Unit Composition

Pungo and similar soils: Typically 90 percent, ranging from about 70 to 95 percent

Typical Profile

Surface layer:
0 to 6 inches—black woody muck
6 to 62 inches—dark reddish brown woody muck
62 to 97 inches—black woody muck

Substratum:
97 to 99 inches—gray loam

Minor Components

Dissimilar:
- Belhaven soils, which have a thinner organic layer than the Pungo soil and are in similar landscape positions

Soil Properties and Qualities

Available water capacity: Very high (about 13.8 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.20 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Very poorly drained
Depth to seasonal high water table: About 0 to 0.5 foot
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very high
Parent material: Remains of vegetation dominated by tupelo, cypress, Atlantic white-cedar, and related nonwoody fibrous hydrophytic plants over loamy and clayey marine sediments

Use and Management Considerations

Cropland
Suitability: Poorly suited if drained
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.
- Removing roots and wood fragments helps to increase productivity.

Pasture and hayland
Suitability: Poorly suited if drained
- The seasonal high water table may affect equipment use, grazing patterns, and the viability of grass and legume species.

Woodland
Suitability: Poorly suited

- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Soil wetness may limit the use of log trucks.
- Logs and stumps restrict the use of equipment during site preparation for planting or seeding.
- The low strength of the soil interferes with the construction of haul roads and log landings.
- The low strength of the soil may create unsafe conditions for log trucks.
- Installing water-control structures in drained areas reduces the hazard of ground fire.

Building sites
- Subsidence makes this soil unsuited to building site development.

Septic tank absorption fields
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The excessive movement of water though the soil limits the proper treatment of the effluent from conventional septic systems and may pollute the water table.
- Subsidence increases the difficulty of designing and installing effluent distribution lines.

Local roads and streets
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- The low strength of the soil is unfavorable for supporting heavy loads.
- Subsidence of the organic material reduces the bearing capacity of the soil.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class (drained): 4w
Land capability class (undrained): 7w
Hydric soil: Yes

RoA—Roper muck, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landscape: Coastal plain
Landform: Marine terraces

Map Unit Composition

Roper and similar soils: Typically 90 percent, ranging from about 70 to 95 percent

Typical Profile

Surface layer:
0 to 11 inches—black muck
11 to 17 inches—very dark grayish brown mucky loam

Subsoil:
17 to 26 inches—very dark gray loam
26 to 41 inches—dark gray loam; common dark grayish brown iron depletions

Substratum:
41 to 50 inches—greenish gray sandy clay loam; common dark gray iron depletions

50 to 65 inches—grayish green sandy clay loam; common gray and greenish gray iron depletions
65 to 72 inches—dark greenish gray sandy loam

Minor Components

Dissimilar:
- Belhaven soils, which have a thicker organic layer than the Roper soil and are in similar landscape positions
- Conaby soils, which have more sand and less silt in the subsoil than the Roper soil and are in similar landscape positions
- Pettigrew soils, which have more clay in the subsoil than the Roper soil and are in similar landscape positions
- Wasda soils, which have more sand and less silt in the subsoil than the Roper soil and are in similar landscape positions

Similar:
- Soils that have silty subhorizons and are in landscape positions similar to those of the Roper soil

Soil Properties and Qualities

Available water capacity: High (about 11.5 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.20 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Very poorly drained
Depth to seasonal high water table: About 0 to 1.0 foot
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very high
Parent material: Silty marine sediments

Use and Management Considerations

Cropland
Suitability: Suited if drained
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pasture and hayland
Suitability: Suited if drained
- The seasonal high water table may affect equipment use, grazing patterns, and the viability of grass and legume species.

Woodland
Suitability: Suited if drained
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The low strength of the soil interferes with the construction of haul roads and log landings.
- The low strength of the soil may create unsafe conditions for log trucks.

Building sites
- The seasonal high water table may restrict the period when excavations can be made.

- The low strength of the soil is unfavorable for supporting heavy loads.

Septic tank absorption fields
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The excessive movement of water though the soil limits the proper treatment of the effluent from conventional septic systems and may pollute the water table.
- The slow movement of water through the soil limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- The low strength of the soil is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Prime farmland if drained
Land capability class (drained): 3w
Land capability class (undrained): 6w
Hydric soil: Yes

SeA—Seabrook loamy sand, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landscape: Coastal plain
Landform: Stream terraces and marine terraces

Map Unit Composition

Seabrook and similar soils: Typically 80 percent, ranging from about 70 to 90 percent

Typical Profile

Surface layer:
0 to 8 inches—dark brown loamy sand

Substratum:
8 to 24 inches—yellowish brown sand
24 to 35 inches—pale brown sand; few light brownish gray iron depletions
35 to 81 inches—light brownish gray sand

Minor Components

Dissimilar:
- Dragston soils, which are somewhat poorly drained and are in landscape positions similar to those of the Seabrook soil
- Nimmo soils, which are poorly drained and are in landscape positions similar to those of the Seabrook soil
- Soils that are somewhat poorly drained, have a sandy subsoil, and are in the slightly lower landscape positions
- Soils that are well drained, have a sandy subsoil, and are in landscape positions similar to those of the Seabrook soil

Similar:
- Munden soils, which have more clay in the subsoil than the Seabrook soil and are in similar landscape positions

Soil Properties and Qualities

Available water capacity: Low (about 3.7 inches)
Slowest saturated hydraulic conductivity: High (about 5.95 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Moderately well drained
Depth to seasonal high water table: About 2.0 to 3.5 feet
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very low
Parent material: Sandy marine and fluvial sediments

Use and Management Considerations

Cropland
Suitability: Suited
- Blowing sand may damage young plants.
- The limited available water capacity may cause plants to suffer from moisture stress.
- Sandy or coarse-textured layers accelerate the rate at which plant nutrients are leached.

Pasture and hayland
Suitability: Suited
- The limited available water capacity may cause plants to suffer from moisture stress during the drier summer months.

Woodland
Suitability: Suited
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Coarse-textured soil layers may slough, which reduces the efficiency of mechanical planting equipment.
- The coarseness of the soil material may reduce the traction of wheeled harvest equipment and log trucks.
- Coarse-textured soil layers increase the need for maintenance of haul roads and log landings.

Building sites
- The seasonal high water table may restrict the period when excavations can be made.
- The high content of sand in the soil increases sloughing and causes cutbanks to be more susceptible to caving.

Septic tank absorption fields
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The excessive movement of water though the soil limits the proper treatment of the effluent from conventional septic systems and may pollute the water table.

Local roads and streets
- This soil is well suited to local roads and streets.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 3s
Hydric soil: No

TeA—Tetotum fine sandy loam, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landscape: Coastal plain
Landform: Stream terraces and marine terraces

Map Unit Composition

Tetotum and similar soils: Typically 80 percent, ranging from about 70 to 90 percent

Typical Profile

Surface layer:
0 to 9 inches—dark grayish brown fine sandy loam

Subsoil:
9 to 14 inches—dark yellowish brown sandy clay loam
14 to 23 inches—yellowish brown clay loam
23 to 30 inches—yellowish brown clay loam; few gray iron depletions and few strong brown masses of oxidized iron
30 to 38 inches—yellowish brown, gray, and red clay loam
38 to 48 inches—gray sandy clay loam; many strong brown and yellowish brown masses of oxidized iron

Substratum:
48 to 72 inches—stratified gray fine sandy loam and loamy fine sand; common yellowish brown and strong brown masses of oxidized iron

Minor Components

Dissimilar:
- Chesapeake soils, which are well drained and are in landscape positions similar to those of the Tetotum soil
- Dragston soils, which are somewhat poorly drained, have a coarse-loamy subsoil, and are in landscape positions similar to those of the Tetotum soil

Similar:
- Bertie soils, which are somewhat poorly drained and are in landscape positions similar to those of the Tetotum soil
- Munden soils, which have less clay in the subsoil and are in landscape positions similar to those of the Tetotum soil

Soil Properties and Qualities

Available water capacity: Moderate (about 8.8 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Moderately well drained
Depth to seasonal high water table: About 1.5 to 2.5 feet

Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Low
Parent material: Loamy fluvial or marine sediments

Use and Management Considerations

Cropland
Suitability: Well suited
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pasture and hayland
Suitability: Well suited
- The seasonal high water table may affect equipment use, grazing patterns, and the viability of grass and legume species.

Woodland
Suitability: Well suited
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- This soil is well suited to haul roads and log landings.
- This soil is well suited to equipment operations.

Building sites
- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- The low strength of the soil can cause structural damage to local roads and streets.

Interpretive Groups

Prime farmland: Prime farmland in all areas
Land capability class: 2w
Hydric soil: No

TmA—Tetotum-Urban land complex, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landscape: Coastal plain
Landform: Stream terraces and marine terraces

Map Unit Composition

Tetotum and similar soils: Typically 50 percent, ranging from about 40 to 60 percent
Urban land and similar areas: Typically 40 percent, ranging from about 30 to 70 percent

Typical Profile

Tetotum
Surface layer:
0 to 9 inches—dark grayish brown fine sandy loam

Subsoil:
9 to 14 inches—dark yellowish brown sandy clay loam
14 to 23 inches—yellowish brown clay loam
23 to 30 inches—yellowish brown clay loam; few gray iron depletions and few strong brown masses of oxidized iron
30 to 38 inches—yellowish brown, gray, and red clay loam
38 to 48 inches—gray sandy clay loam; many strong brown and yellowish brown masses of oxidized iron

Substratum:
48 to 72 inches—stratified gray fine sandy loam and loamy fine sand; common yellowish brown and strong brown masses of oxidized iron

Urban land
Urban land consists of areas where more than 85 percent of the soil surface is covered by impervious material, such as streets, buildings, parking lots, and pavement. The soils in these areas have been cut, filled, graded, or otherwise modified to the extent that most soil properties have been altered. Most of the acreage of this map unit is in the business district of Elizabeth City.

Minor Components

Dissimilar:
- Chesapeake soils, which are well drained and are in landscape positions similar to those of the Tetotum soil
- Dragston soils, which are somewhat poorly drained, have a coarse-loamy subsoil, and are in landscape positions similar to those of the Tetotum soil

Similar:
- Bertie soils, which are somewhat poorly drained and are in landscape positions similar to those of the Tetotum soil
- Munden soils, which have less clay in the subsoil and are in landscape positions similar to those of the Tetotum soil

Soil Properties and Qualities

Tetotum
Available water capacity: Moderate (about 8.8 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Moderately well drained
Depth to seasonal high water table: About 1.5 to 2.5 feet
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Low
Parent material: Loamy fluvial or marine sediments

Use and Management Considerations

Suitability: The suitability classes for the Tetotum soil in this map unit are the same as those noted for Tetotum fine sandy loam, 0 to 2 percent slopes.

Recommendations for use and management of this soil generally require onsite investigation.

Building sites
- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The excessive movement of water though the soil limits the proper treatment of the effluent from conventional septic systems and may pollute the water table.

Local roads and streets
- The low strength of the soil can cause structural damage to local roads and streets.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 2w
Hydric soil: No

ToA—Tomotley fine sandy loam, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landscape: Coastal plain
Landform: Stream terraces and marine terraces

Map Unit Composition

Tomotley and similar soils: Typically 85 percent, ranging from about 80 to 95 percent

Typical Profile

Surface layer:
0 to 7 inches—dark grayish brown fine sandy loam

Subsoil:
7 to 12 inches—light gray fine sandy loam; few yellowish brown masses of oxidized iron
12 to 42 inches—light brownish gray sandy clay loam; common strong brown and yellowish brown masses of oxidized iron
42 to 50 inches—light brownish gray, gray, and yellowish brown sandy loam

Substratum:
50 to 72 inches—gray loamy sand; many yellowish brown and strong brown masses of oxidized iron

Minor Components

Dissimilar:
- Arapahoe soils, which are very poorly drained, have less clay in the subsoil than the Tomotley soil, and are in similar landscape positions or in depressions
- Dragston soils, which are somewhat poorly drained, have less clay in the subsoil than the Tomotley soil, and are in similar landscape positions
- Nimmo soils, which have less clay in the subsoil than the Tomotley soil and are in similar landscape positions

Similar:
- Soils that have thick, sandy horizons within 40 inches and are in landscape positions similar to those of the Tomotley soil
- Perquimans soils, which have more silt in the subsoil than the Tomotley soil and are in similar landscape positions.
- Portsmouth soils, which are very poorly drained, have thick, sandy horizons within 40 inches of the surface, and are in landscape positions similar to those of the Tomotley soil

Soil Properties and Qualities

Available water capacity: Moderate (about 8.1 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.20 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Poorly drained
Depth to seasonal high water table: About 0 to 1.0 foot
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very high
Parent material: Loamy marine and fluvial sediments

Use and Management Considerations

Cropland
Suitability: Suited if drained
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pasture and hayland
Suitability: Suited if drained
- The seasonal high water table may affect equipment use, grazing patterns, and the viability of grass and legume species.

Woodland
Suitability: Well suited if drained
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Soil wetness may limit the use of log trucks.
- The low strength of the soil interferes with the construction of haul roads and log landings.
- The low strength of the soil may create unsafe conditions for log trucks.

Building sites
- The seasonal high water table may restrict the period when excavations can be made.
- The high content of sand in the soil increases sloughing and causes cutbanks to be more susceptible to caving.

Septic tank absorption fields
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.

Interpretive Groups

Prime farmland: Prime farmland if drained
Land capability class (drained): 3w
Land capability class (undrained): 4w
Hydric soil: Yes

TuA—Tomotley-Portsmouth-Urban land complex, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landscape: Coastal plain
Landform: Tomotley—stream terraces and marine terraces; Portsmouth—marine terraces

Map Unit Composition

Tomotley and similar soils: Typically 30 percent, ranging from about 25 to 40 percent
Portsmouth and similar soils: Typically 30 percent, ranging from about 25 to 35 percent
Urban land and similar areas: Typically 25 percent, ranging from about 20 to 50 percent

Typical Profile

Tomotley
Surface layer:
0 to 7 inches—dark grayish brown fine sandy loam

Subsoil:
7 to 12 inches—light gray fine sandy loam; few yellowish brown masses of oxidized iron
12 to 42 inches—light brownish gray sandy clay loam; common strong brown and yellowish brown masses of oxidized iron
42 to 50 inches—light brownish gray, gray, and yellowish brown sandy loam

Substratum:
50 to 72 inches—gray loamy sand; many yellowish brown and strong brown masses of oxidized iron

Portsmouth
Surface layer:
0 to 12 inches—black fine sandy loam

Subsurface layer:
12 to 19 inches—gray fine sandy loam

Subsoil:
19 to 23 inches—gray and dark gray fine sandy loam; common brownish yellow and yellow masses of oxidized iron
23 to 35 inches—gray and dark gray sandy clay loam; common yellowish brown, brownish yellow, and yellowish red masses of oxidized iron
35 to 38 inches—gray, brownish yellow, and reddish yellow sandy loam

Substratum:
38 to 48 inches—gray sand
48 to 72 inches—gray and light gray coarse sand

Urban land

Urban land consists of areas where more than 85 percent of the soil surface is covered by impervious material, such as streets, buildings, parking lots, and pavement. The soils in these areas have been cut, filled, graded, or otherwise modified to the extent that most soil properties have been altered. Most of the acreage of this map unit is in the business district of Elizabeth City.

Minor Components

Dissimilar:

- Arapahoe and Nimmo soils, which have less clay in the subsoil than the major soils and are in similar landscape positions

Similar:

- Perquimans soils, which have more silt in the subsoil than the major soils and are in similar landscape positions

Soil Properties and Qualities

Tomotley

Available water capacity: Moderate (about 8.3 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.20 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: 20 to 40 inches to strongly contrasting textural stratification
Drainage class: Poorly drained
Depth to seasonal high water table: About 0 to 1.0 foot
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very high
Parent material: Loamy marine and fluvial sediments

Portsmouth

Available water capacity: Moderate (about 6.4 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Very poorly drained
Depth to seasonal high water table: About 0 to 1.0 foot
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very high
Parent material: Loamy marine sediments

Use and Management Considerations

Suitability: The suitability classes for the Tomotley soil in this map unit are the same as those noted for Tomotley fine sandy loam, 0 to 2 percent slopes. The suitability classes for the Portsmouth soil in this map unit are the same as those noted for Portsmouth fine sandy loam, 0 to 2 percent slopes. Recommendations for use and management of this soil generally require onsite investigation.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.

- The high content of sand in the soil increases sloughing and causes cutbanks to be more susceptible to caving.

Septic tank absorption fields
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The excessive movement of water though the soil limits the proper treatment of the effluent from conventional septic systems and may pollute the water table.

Local roads and streets
- These soils are well suited to local roads and streets.

Interpretive Groups

Tomotley
Prime farmland: Prime farmland if drained
Land capability class (drained): 3w
Land capability class (undrained): 4w
Hydric soil: Yes

Portsmouth
Prime farmland: Prime farmland if drained
Land capability class (drained): 3w
Land capability class (undrained): 6w
Hydric soil: Yes

Urban land
Prime farmland: Not prime farmland

UdA—Udorthents loamy, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landscape: Coastal plain
Landform: Marine terraces

Map Unit Composition

Udorthents and similar soils: Typically 95 percent, ranging from about 90 to 100 percent

Typical Pedon
Udorthents typically consist of loamy soil material that is 2 to 15 or more feet thick. These units have been altered by cutting, filling, or shaping. Layers of sand to clay may be present, but the average over-all texture is loamy. These areas vary in color, texture, and other physical characteristics; therefore, a typical pedon is not given.

Use and Management Considerations

Onsite investigation is needed to determine the suitability for specific uses.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 7s
Hydric soil: No

Ur—Urban land

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landscape: Coastal plain
Landform: Marine terraces and stream terraces

Map Unit Composition

Urban land and similar areas: Typically 95 percent, ranging from about 85 to 100 percent

Typical Pedon

This map unit consists of areas where the original soils have been removed or altered during excavation and construction activities. Schools, parking lots, streets, commercial buildings, and residential dwellings make up more than 85 percent of the unit. Most of the acreage of this map unit is in Elizabeth City. Other small acreage map units are scattered throughout the county.

Use and Management Considerations

Onsite investigation is needed to determine the suitability for specific uses.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 8s
Hydric soil: No

W—Water

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landscape: Coastal plain
Landform: Unspecified

Typical Pedon

This map unit consists of areas of water, including ponds, lakes, and rivers. The largest mapped areas of water in, or partially in, Pasquotank County are the Pasquotank River, Knobbs Creek, New Begun Creek, Little Flatty Creek, Big Flatty Creek, Symonds Creek, Little River, and the Albemarle Sound.

WaA—Wahee silt loam, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landscape: Coastal plain
Landform: Stream terraces and marine terraces

Map Unit Composition

Wahee and similar soils: Typically 80 percent, ranging from about 75 to 85 percent

Typical Profile

Surface layer:
0 to 7 inches—light olive brown silt loam

Subsoil:
7 to 12 inches—olive brown silty clay loam; common light brownish gray iron depletions
12 to 23 inches—grayish brown silty clay; common light olive brown masses of oxidized iron
23 to 34 inches—gray silty clay loam; common brown and many yellowish brown masses of oxidized iron
34 to 41 inches—gray loam; common yellowish brown masses of oxidized iron

Substratum:
41 to 60 inches—gray sandy loam

Minor Components

Dissimilar:
- Gertie soils, which are poorly drained and are in landscape positions similar to those of the Wahee soil

Similar:
- Chapanoke soils, which have a fine-silty subsoil and are in landscape positions similar to those of the Wahee soil

Soil Properties and Qualities

Available water capacity: Moderate (about 9.0 inches)
Slowest saturated hydraulic conductivity: Moderately low (about 0.06 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Somewhat poorly drained
Depth to seasonal high water table: About 0.5 to 1.5 inches
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Very high
Parent material: Clayey and loamy marine and fluvial sediments

Use and Management Considerations

Cropland
Suitability: Suited if drained
- The high clay content of the soil restricts the rooting depth of crops.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pasture and hayland
Suitability: Suited if drained
- The seasonal high water table may affect equipment use, grazing patterns, and the viability of grass and legume species.
- Compaction may occur when the soil is wet.

Woodland
Suitability: Well suited if drained
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Soil wetness may limit the use of log trucks.

- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.
- The low strength of the soil interferes with the construction of haul roads and log landings.
- The low strength of the soil may create unsafe conditions for log trucks.

Building sites
- The seasonal high water table may restrict the period when excavations can be made.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slow movement of water through the soil limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of shrinking and swelling, the use of this soil as base material for local roads and streets is restricted.
- The low strength of the soil is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 3w
Hydric soil: No

WcA—Wasda-Conaby complex, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landscape: Coastal plain
Landform: Marine terraces

Map Unit Composition

Wasda and similar soils: Typically 65 percent, ranging from about 50 to 80 percent
Conaby and similar soils: Typically 25 percent, ranging from about 20 to 50 percent

Typical Profile

Wasda
Surface layer:
0 to 10 inches—black muck
10 to 15 inches—black mucky sandy loam

Subsoil:
15 to 24 inches—very dark gray and very dark grayish brown fine sandy loam
24 to 36 inches—black sandy clay loam

Substratum:
36 to 62 inches—black clay loam; common greenish gray iron depletions

Conaby
Surface layer:
0 to 8 inches—black muck
8 to 12 inches—gray muck
12 to 20 inches—black sandy loam

Subsoil:
20 to 27 inches—very dark gray sandy loam
27 to 38 inches—gray sandy loam
38 to 55 inches—gray and very dark grayish brown sandy loam; few yellowish brown masses of oxidized iron

Substratum:
55 to 60 inches—greenish gray and gray sandy loam; common yellowish brown masses of oxidized iron

Minor Components

Dissimilar:
- Arapahoe soils, which have mineral or mucky mineral surface layers and are in landscape positions similar to those of the major soils
- Belhaven soils, which have organic surface layers that are 16 to 51 inches thick and are in landscape positions similar to those of the major soils
- Deloss soils, which have mineral or mucky mineral surface layers and are in landscape positions similar to those of the major soils
- Pettigrew soils, which have more clay in the subsoil than the major soils and are in landscape positions similar to those of the major soils
- Roper soils, which have more silt in the subsoil than the major soils and are in similar landscape positions

Soil Properties and Qualities

Wasda
Available water capacity: High (about 9.9 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Very poorly drained
Depth to seasonal high water table: About 0 to 1.0 foot
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very high
Parent material: Loamy marine sediments

Conaby
Available water capacity: Moderate (about 7.9 inches)
Slowest saturated hydraulic conductivity: High (about 1.98 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Very poorly drained
Depth to seasonal high water table: About 0 to 1.0 foot
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low

Runoff class: Very high
Parent material: Sandy and loamy marine sediments

Use and Management Considerations

Cropland
Suitability: Suited if drained (fig. 6)
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pasture and hayland
Suitability: Suited if drained
- The seasonal high water table may affect equipment use, grazing patterns, and the viability of grass and legume species.

Woodland
Suitability: Suited if drained
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Soil wetness may limit the use of log trucks.
- The low strength of the soil interferes with the construction of haul roads and log landings.
- The low strength of the soil may create unsafe conditions for log trucks.

Building sites
- The seasonal high water table may restrict the period when excavations can be made.

Figure 6.—A drainage ditch in an area of Wasda-Conaby complex, 0 to 2 percent slopes. Large areas of nearly level soils like the Wasda-Conaby complex, 0 to 2 percent slopes, are drained by large open ditches so that crops can be grown.

- The low strength of the soil is unfavorable for supporting heavy loads.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- The low strength of the soil can cause structural damage to local roads and streets.

Interpretive Groups

Wasda
Prime farmland: Prime farmland if drained
Land capability class (drained): 3w
Land capability class (undrained): 6w
Hydric soil: Yes

Conaby
Prime farmland: Prime farmland if drained
Land capability class (drained): 3w
Land capability class (undrained): 6w
Hydric soil: Yes

WeA—Weeksville loam, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landscape: Coastal plain
Landform: Marine terraces

Map Unit Composition

Weeksville and similar soils: Typically 80 percent, ranging from about 70 to 90 percent

Typical Profile

Surface layer:
0 to 6 inches—very dark brown loam
6 to 13 inches—very dark brown loam

Subsoil:
13 to 32 inches—dark grayish brown loam
32 to 38 inches—dark grayish brown loam; few strong brown masses of oxidized iron
38 to 45 inches—grayish brown loam; common yellowish brown masses of oxidized iron

Substratum:
45 to 60 inches—gray loam; common light olive brown and dark reddish brown masses of oxidized iron
60 to 72 inches—olive gray fine sandy loam; common olive and yellowish red masses of oxidized iron

Minor Components

Dissimilar:

- Hyde soils, which have a fine-silty subsoil and are in landscape positions similar to those of the Weeksville soil

- Pasquotank soils, which are poorly drained and are in landscape positions similar to those of the Weeksville soil
- Perquimans soils, which are poorly drained, have a fine-silty subsoil, and are in landscape positions similar to those of the Weeksville soil

Soil Properties and Qualities

Available water capacity: High (about 11.7 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Very poorly drained
Depth to seasonal high water table: About 0 to 1.0 foot
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very high
Parent material: Loamy marine sediments

Use and Management Considerations

Cropland
Suitability: Suited if drained
- The risk of compaction increases when the soil is wet.

Pasture and hayland
Suitability: Suited if drained
- The seasonal high water table may affect equipment use, grazing patterns, and the viability of grass and legume species.
- Compaction may occur when the soil is wet.

Woodland
Suitability: Suited if drained
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The low strength of the soil interferes with the construction of haul roads and log landings.
- The low strength of the soil may create unsafe conditions for log trucks.

Building sites
- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.

Interpretive Groups

Prime farmland: Prime farmland if drained
Land capability class (drained): 3w
Land capability class (undrained): 6w
Hydric soil: Yes

YeA—Yeopim silt loam, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landscape: Coastal plain
Landform: Marine terraces

Map Unit Composition

Yeopim and similar soils: Typically 85 percent, ranging from about 80 to 90 percent

Typical Profile

Surface layer:
0 to 5 inches—yellowish brown silt loam

Subsoil:
5 to 16 inches—yellowish brown silty clay loam; few dark brown masses of oxidized iron
16 to 31 inches—light yellowish brown silty clay loam; common light gray iron depletions and common reddish yellow masses of oxidized iron
31 to 49 inches—light gray silty clay loam; few yellow and very pale brown masses of oxidized iron

Substratum:
49 to 62 inches—light gray, very pale brown, yellow, and strong brown sandy loam

Minor Components

Dissimilar:
- Nixonton soils, which are well drained and are in landscape positions similar to those of the Yeopim soil

Similar:
- Soils that have a thinner solum than the Yeopim soil and are in similar landscape positions
- Soils that have a clayey subsoil and are in landscapes positions similar to those of the Yeopim soil

Soil Properties and Qualities

Available water capacity: High (about 10.8 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.20 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Moderately well drained
Depth to seasonal high water table: About 1.5 to 3.0 feet
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Low
Parent material: Loamy marine sediments

Use and Management Considerations

Cropland
Suitability: Well suited
- The risk of compaction increases when the soil is wet.

- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pasture and hayland
Suitability: Well suited
- There are no significant limitations that affect the management of pasture and hayland.

Woodland
Suitability: Suited
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The low strength of the soil interferes with the construction of haul roads and log landings.
- The low strength of the soil may create unsafe conditions for log trucks.

Building sites
- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slow movement of water through the soil limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- The low strength of the soil is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Prime farmland in all areas
Land capability class: 2w
Hydric soil: No

Use and Management of the Soils

This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. Also, it can help to prevent soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavioral characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

Information in this section can be used to plan the use and management of soils for crops and pasture; as forestland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities; for agricultural waste management; and as wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of gravel, sand, reclamation material, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

Interpretive Ratings

The interpretive tables in this survey rate the soils in the survey area for various uses. Many of the tables identify the limitations that affect specified uses and indicate the severity of those limitations. The ratings in these tables are both verbal and numerical.

Rating Class Terms

Rating classes are expressed in the tables in terms that indicate the extent to which the soils are limited by all of the soil features that affect a specified use or in terms that indicate the suitability of the soils for the use. Thus, the tables may show limitation classes or suitability classes. Terms for the limitation classes are *not limited, somewhat limited,* and *very limited*. The suitability ratings are expressed as *well suited, moderately suited, poorly suited,* and *unsuited* or as *good, fair,* and *poor*.

Numerical Ratings

Numerical ratings in the tables indicate the relative severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation. The limitations appear in order from the most limiting to the least limiting. Thus, if more than one limitation is identified, the most severe limitation is listed first and the least severe one is listed last.

Crops and Pasture

General management needed for crops and pasture is suggested in this section. The estimated yields of the main crops and pasture plants are listed, and the system of land capability classification used by the Natural Resources Conservation Service is explained.

Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil under the heading “Detailed Soil Map Units.” Specific information can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

Yields per Acre

The average yields per acre shown in tables 5a and 5b are those that can be expected of the principal crops under a high level of management. In any given year, yields may be higher or lower than those indicated in the tables because of variations in rainfall and other climatic factors. The land capability classification of map units in the survey area also is shown in the tables.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations also are considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in the yields tables are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service or of the Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for forestland or for engineering purposes.

In the capability system, soils are generally grouped at three levels—capability class, subclass, and unit (USDA, 1961).

Capability classes, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class 1 soils have slight limitations that restrict their use.

Class 2 soils have moderate limitations that restrict the choice of plants or that require moderate conservation practices.

Class 3 soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.

Class 4 soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.

Class 5 soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.

Capability subclasses are soil groups within one class. They are designated by adding a small letter, *e, w, s,* or *c,* to the class numeral, for example, 2e. The letter *e* shows that the main hazard is the risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c,* used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

In class 1 there are no subclasses because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by *w, s,* or *c* because the soils in class 5 are subject to little or no erosion. They have other limitations that restrict their use to pasture, rangeland, forestland, wildlife habitat, or recreation.

Capability units are soil groups within a subclass. The soils in a capability unit are enough alike to be suited to the same crops and pasture plants, to require similar management, and to have similar productivity. Capability units are generally designated by adding an Arabic numeral to the subclass symbol, for example, 2e-4 and 3e-6. These units are not given in all soil surveys.

The capability classification of the soils in this survey area is given in the section “Detailed Soil Map Units” and in the yields table.

Prime Farmland and Other Important Farmlands

Table 6 lists the map units in the survey area that are considered prime farmland and farmland of statewide importance. This list does not constitute a recommendation for a particular land use.

In an effort to identify the extent and location of important farmlands, the Natural Resources Conservation Service, in cooperation with other interested Federal, State, and local government organizations, has inventoried land that can be used for the production of the Nation’s food supply.

Prime farmland is of major importance in meeting the Nation's short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil quality, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. The water supply is dependable and of adequate quality. Prime farmland is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 6 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

A recent trend in land use in some areas has been the loss of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

For some soils identified in the table as prime farmland, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures.

In some areas, land that does not meet the criteria for prime or unique farmland is considered to be *farmland of statewide importance* for the production of food, feed, fiber, forage, and oilseed crops. The criteria for defining and delineating farmland of statewide importance are determined by the appropriate State agencies. Generally, this land includes areas of soils that nearly meet the requirements for prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods. Some areas may produce as high a yield as prime farmland if conditions are favorable. Farmland of statewide importance may include tracts of land that have been designated for agriculture by State law.

Agricultural Waste Management

Soil properties are important considerations in areas where soils are used as sites for the treatment and disposal of organic waste and wastewater. Selection of soils with properties that favor waste management can help to prevent environmental damage.

Tables 7a, 7b, and 7c show the degree and kind of soil limitations affecting the treatment of agricultural waste, including municipal and food-processing wastewater and effluent from lagoons or storage ponds. Municipal wastewater is the waste stream from a municipality. It contains domestic waste and may contain industrial waste. It may have received primary or secondary treatment. It is rarely untreated sewage. Food-processing wastewater results from the preparation of fruits, vegetables, milk, cheese, and meats for public consumption. In places it is high in content of sodium and chloride. In the context of these tables, the effluent in lagoons and storage ponds is from facilities used to treat or store food-processing wastewater or domestic or animal waste. Domestic and food-processing wastewater is very dilute, and the effluent from the facilities that treat or store it commonly is very low in content of carbonaceous and nitrogenous material; the content of nitrogen commonly ranges from 10 to 30 milligrams per liter. The wastewater from animal waste treatment lagoons or storage ponds, however, has much higher concentrations of these materials, mainly because the manure has not been diluted as much as the domestic waste. The content of nitrogen in this wastewater generally ranges from 50 to 2,000 milligrams per liter. When wastewater is applied, checks should be made to ensure that nitrogen, heavy metals, and salts are not added in excessive amounts.

The ratings in the tables are for waste management systems that not only dispose of and treat organic waste or wastewater but also are beneficial to crops (application of manure and food-processing waste, application of sewage sludge, and disposal of wastewater by irrigation) and for waste management systems that are designed only for the purpose of wastewater disposal and treatment (overland flow of wastewater, rapid infiltration of wastewater, and slow rate treatment of wastewater).

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect agricultural waste management. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Application of manure and food-processing waste not only disposes of waste material but also can improve crop production by increasing the supply of nutrients in the soils where the material is applied. Manure is the excrement of livestock and poultry, and food-processing waste is damaged fruit and vegetables and the peelings, stems, leaves, pits, and soil particles removed in food preparation. The manure and food-processing waste are either solid, slurry, or liquid. Their nitrogen content varies. A high content of nitrogen limits the application rate. Toxic or otherwise dangerous wastes, such as those mixed with the lye used in food processing, are not considered in the ratings.

The ratings are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the waste is applied, and the method by which the waste is applied. The properties that affect absorption include saturated hydraulic conductivity (Ksat), depth to a water table, ponding, the sodium adsorption ratio, depth to bedrock or a cemented pan, and available water capacity. The properties that affect plant growth and microbial activity include reaction, the sodium adsorption ratio, salinity, and bulk density. The wind erodibility group, the soil erosion factor K, and slope are considered in estimating the likelihood that wind erosion or water erosion will transport the waste material from the application site. Stones, cobbles, a water table, ponding, and flooding can hinder the application of waste. Permanently frozen soils are unsuitable for waste treatment.

Application of sewage sludge not only disposes of waste material but also can improve crop production by increasing the supply of nutrients in the soils where the material is applied. In the context of this table, sewage sludge is the residual product of the treatment of municipal sewage. The solid component consists mainly of cell mass, primarily bacteria cells that developed during secondary treatment and have incorporated soluble organics into their own bodies. The sludge has small amounts of sand, silt, and other solid debris. The content of nitrogen varies. Some sludge has constituents that are toxic to plants or hazardous to the food chain, such as heavy metals and exotic organic compounds, and should be analyzed chemically prior to use.

The content of water in the sludge ranges from about 98 percent to less than 40 percent. The sludge is considered liquid if it is more than about 90 percent water, slurry if it is about 50 to 90 percent water, and solid if it is less than about 50 percent water.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the sludge is applied, and the method by which the sludge is applied. The properties that affect absorption, plant growth, and microbial activity include saturated hydraulic conductivity (Ksat), depth to a water table, ponding, the sodium adsorption ratio, depth to bedrock or a cemented pan, available water capacity, reaction, salinity, and bulk density. The wind erodibility group, the soil erosion factor K, and slope are considered in estimating the likelihood that wind erosion or water erosion will transport the waste material from the application site. Stones, cobbles, a water table, ponding, and flooding can hinder the application of sludge. Permanently frozen soils are unsuitable for waste treatment.

Disposal of wastewater by irrigation not only disposes of municipal wastewater and wastewater from food-processing plants, lagoons, and storage ponds but also can improve crop production by increasing the amount of water available to crops. The ratings in the table are based on the soil properties that affect the design, construction, management, and performance of the irrigation system. The properties that affect design and management include the sodium adsorption ratio, depth to a water table, ponding, available water capacity, saturated hydraulic conductivity (Ksat), slope, and flooding. The properties that affect construction include stones, cobbles, depth to bedrock or a cemented pan, depth to a water table, and ponding. The properties that affect performance include depth to bedrock or a cemented pan, bulk density, the sodium adsorption ratio, salinity, reaction, and the cation-exchange capacity, which is used to estimate the capacity of a soil to adsorb heavy metals. Permanently frozen soils are not suitable for disposal of wastewater by irrigation.

Overland flow of wastewater is a process in which wastewater is applied to the upper reaches of sloped land and allowed to flow across vegetated surfaces, sometimes called terraces, to runoff-collection ditches. The length of the run generally is 150 to 300 feet. The application rate ranges from 2.5 to 16.0 inches per week. It commonly exceeds the rate needed for irrigation of cropland. The wastewater leaves solids and nutrients on the vegetated surfaces as it flows downslope in a thin film. Most of the water reaches the collection ditch, some is lost through evapotranspiration, and a small amount may percolate to the ground water.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, and the design and construction of the system. Reaction and the cation-exchange capacity affect absorption. Reaction, salinity, and the sodium adsorption ratio affect plant growth and microbial activity. Slope, saturated hydraulic conductivity (Ksat), depth to a water table, ponding, flooding, depth to bedrock or a cemented pan, stones, and cobbles affect design and construction. Permanently frozen soils are unsuitable for waste treatment.

Rapid infiltration of wastewater is a process in which wastewater applied in a level basin at a rate of 4 to 120 inches per week percolates through the soil. The wastewater may eventually reach the ground water. The application rate commonly exceeds the rate needed for irrigation of cropland. Vegetation is not a necessary part of the treatment; hence, the basins may or may not be vegetated. The thickness of the soil material needed for proper treatment of the wastewater is more than 72 inches. As a result, geologic and hydrologic investigation is needed to ensure proper design and performance and to determine the risk of ground-water pollution.

The ratings in the table are based on the soil properties that affect the risk of pollution and the design, construction, and performance of the system. Depth to a water table, ponding, flooding, and depth to bedrock or a cemented pan affect the risk of pollution and the design and construction of the system. Slope, stones, and cobbles also affect design and construction. Saturated hydraulic conductivity (Ksat) and reaction affect performance. Permanently frozen soils are unsuitable for waste treatment.

Slow rate treatment of wastewater is a process in which wastewater is applied to land at a rate normally between 0.5 inch and 4.0 inches per week. The application rate commonly exceeds the rate needed for irrigation of cropland. The applied wastewater is treated as it moves through the soil. Much of the treated water may percolate to the ground water, and some enters the atmosphere through evapotranspiration. The applied water generally is not allowed to run off the surface. Waterlogging is prevented either through control of the application rate or through the use of tile drains, or both.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, and the application of waste. The properties that affect absorption include the sodium adsorption ratio, depth to a water table, ponding, available water capacity, saturated hydraulic conductivity (Ksat), depth to bedrock or a cemented pan, reaction, the cation-exchange capacity, and slope. Reaction, the sodium adsorption ratio, salinity, and bulk density affect plant growth and microbial activity. The wind erodibility group, the soil erosion factor K, and slope are considered in estimating the likelihood of wind erosion or water erosion. Stones, cobbles, a water table, ponding, and flooding can hinder the application of waste. Permanently frozen soils are unsuitable for waste treatment.

Forestland Productivity and Management

The tables described in this section can help forest owners or managers plan the use of soils for wood crops. They show the potential productivity of the soils for wood crops and rate the soils according to the limitations that affect various aspects of forestland management.

Forestland Productivity

In table 8, the *potential productivity* of merchantable or *common trees* on a soil is expressed as a site index and as a volume number. The *site index* is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that forest managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability. More detailed information regarding site index is available in the “National Forestry Manual,” which is available in local offices of the Natural Resources Conservation Service or on the Internet.

The *volume of wood fiber*, a number, is the yield likely to be produced by the most important tree species. This number, expressed as cubic feet per acre per year and calculated at the age of culmination of the mean annual increment (CMAI), indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

Trees to manage are those that are preferred for planting, seeding, or natural regeneration and those that remain in the stand after thinning or partial harvest.

Forestland Management

In tables 9a, 9b, 9c, 9d, and 9e, interpretive ratings are given for various aspects of forestland management. The ratings are both verbal and numerical.

Some rating class terms indicate the degree to which the soils are suited to a specified aspect of forestland management. *Well suited* indicates that the soil has features that are favorable for the specified management aspect and has no limitations. Good performance can be expected, and little or no maintenance is needed. *Moderately suited* indicates that the soil has features that are moderately favorable for the specified management aspect. One or more soil properties are less than desirable, and fair performance can be expected. Some maintenance is needed. *Poorly suited* indicates that the soil has one or more properties that are unfavorable for the specified management aspect. Overcoming the unfavorable properties requires special design, extra maintenance, and costly alteration. *Unsuited* indicates that the expected performance of the soil is unacceptable for the specified management aspect or that extreme measures are needed to overcome the undesirable soil properties.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the specified aspect of forestland management (1.00) and the point at which the soil feature is not a limitation (0.00).

Rating class terms for fire damage and seedling mortality are expressed as *low, moderate,* and *high*. Where these terms are used, the numerical ratings indicate gradations between the point at which the potential for fire damage or seedling mortality is highest (1.00) and the point at which the potential is lowest (0.00).

The paragraphs that follow indicate the soil properties considered in rating the soils. More detailed information about the criteria used in the ratings is available in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or on the Internet.

For *limitations affecting construction of haul roads and log landings*, the ratings are based on slope, flooding, permafrost, plasticity index, the hazard of soil slippage, content of sand, the Unified classification, rock fragments on or below the surface, depth to a restrictive layer that is indurated, depth to a water table, and ponding. The limitations are described as slight, moderate, or severe. A rating of *slight* indicates that no significant limitations affect construction activities, *moderate* indicates that one or more limitations can cause some difficulty in construction, and *severe* indicates that one or more limitations can make construction very difficult or very costly.

The ratings of *suitability for log landings* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, ponding, flooding, and the hazard of soil slippage. The soils are described as well suited, moderately suited, or poorly suited to use as log landings.

Ratings in the column *soil rutting hazard* are based on depth to a water table, rock fragments on or below the surface, the Unified classification, depth to a restrictive layer, and slope. Ruts form as a result of the operation of forest equipment. The hazard is described as slight, moderate, or severe. A rating of *slight* indicates that the soil is subject to little or no rutting, *moderate* indicates that rutting is likely, and *severe* indicates that ruts form readily.

Ratings in the column *hazard of off-road or off-trail erosion* are based on slope and on soil erosion factor K. The soil loss is caused by sheet or rill erosion in off-road or off-trail areas where 50 to 75 percent of the surface has been exposed by logging, grazing, mining, or other kinds of disturbance. The hazard is described as slight, moderate, severe, or very severe. A rating of *slight* indicates that erosion is unlikely under ordinary climatic conditions; *moderate* indicates that some erosion is likely and that erosion-control measures may be needed; *severe* indicates that erosion is very likely and that erosion-control measures, including revegetation of bare areas, are advised; and *very severe* indicates that significant erosion is expected, loss of soil productivity and off-site damage are likely, and erosion-control measures are costly and generally impractical.

Ratings in the column *hazard of erosion on roads and trails* are based on the soil erosion factor K, slope, and content of rock fragments. The ratings apply to unsurfaced roads and trails. The hazard is described as slight, moderate, or severe. A rating of *slight* indicates that little or no erosion is likely; *moderate* indicates that some erosion is likely, that the roads or trails may require occasional maintenance, and that simple erosion-control measures are needed; and *severe* indicates that significant erosion is expected, that the roads or trails require frequent maintenance, and that costly erosion-control measures are needed.

Ratings in the column *suitability for roads (natural surface)* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, ponding, flooding, and the hazard of soil slippage. The ratings indicate the suitability for using the natural surface of the soil for roads. The soils are described as well suited, moderately suited, or poorly suited to this use.

Ratings in the columns *suitability for hand planting* and *suitability for mechanical planting* are based on slope, depth to a restrictive layer, content of sand, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, moderately suited, poorly suited, or unsuited to these methods of planting. It is assumed that necessary site preparation is completed before seedlings are planted.

Ratings in the column *suitability for use of harvesting equipment* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, and ponding. The soils are described as well suited, moderately suited, or poorly suited to this use.

Ratings in the column *suitability for mechanical site preparation (surface)* are based on slope, depth to a restrictive layer, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, poorly suited, or unsuited to this management activity. The part of the soil from the surface to a depth of about 1 foot is considered in the ratings.

Ratings in the column *suitability for mechanical site preparation (deep)* are based on slope, depth to a restrictive layer, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, poorly suited, or unsuited to this management activity. The part of the soil from the surface to a depth of about 3 feet is considered in the ratings.

Ratings in the column *potential for damage to soil by fire* are based on texture of the surface layer, content of rock fragments and organic matter in the surface layer, thickness of the surface layer, and slope. The soils are described as having a low, moderate, or high potential for this kind of damage. The ratings indicate an evaluation of the potential impact of prescribed fires or wildfires that are intense enough to remove the duff layer and consume organic matter in the surface layer.

Ratings in the column *potential for seedling mortality* are based on flooding, ponding, depth to a water table, content of lime, reaction, salinity, available water capacity, soil moisture regime, soil temperature regime, aspect, and slope. The soils are described as having a low, moderate, or high potential for seedling mortality.

Recreational Development

In tables 10a and 10b, the soils of the survey area are rated according to limitations that affect their suitability for recreational development. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the recreational uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The ratings in the tables are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation also are important. Soils that are subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

The information in these tables can be supplemented by other information in this survey, for example, interpretations for dwellings without basements, for local roads and streets, and for septic tank absorption fields.

Camp areas require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The ratings are based on the soil properties that affect the ease of developing camp areas and the performance of the areas after development. Slope, stoniness, and depth to bedrock or a cemented pan are the main concerns affecting the development of camp areas. The soil properties that affect the performance of the areas after development are those that influence trafficability and promote the growth of vegetation, especially in heavily used areas. For good trafficability, the surface of camp areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, saturated hydraulic conductivity (Ksat), and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, saturated hydraulic conductivity (Ksat), and toxic substances in the soil.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The ratings are based on the soil properties that affect the ease of developing picnic areas and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of picnic areas. For good trafficability, the surface of picnic areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, saturated hydraulic conductivity (Ksat), and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, saturated hydraulic conductivity (Ksat), and toxic substances in the soil.

Playgrounds require soils that are nearly level, are free of stones, and can withstand intensive foot traffic. The ratings are based on the soil properties that affect the ease of developing playgrounds and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of playgrounds. For good trafficability, the surface of the playgrounds should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, saturated hydraulic conductivity (Ksat), and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, saturated hydraulic conductivity (Ksat), and toxic substances in the soil.

Paths and trails for hiking and horseback riding should require little or no slope modification through cutting and filling. The ratings are based on the soil properties that affect trafficability and erodibility. These properties are stoniness, depth to a water table, ponding, flooding, slope, and texture of the surface layer.

Off-road motorcycle trails require little or no site preparation. They are not covered with surfacing material or vegetation. Considerable compaction of the soil material is likely. The ratings are based on the soil properties that influence erodibility, trafficability, dustiness, and the ease of revegetation. These properties are stoniness, slope, depth to a water table, ponding, flooding, and texture of the surface layer.

Golf fairways are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer. The suitability of the soil for traps, tees, roughs, and greens is not considered in the ratings.

Hydric Soils

Table 11 lists the map unit components that are rated as hydric soils in the survey area. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and others, 2002).

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for all of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils, under natural conditions, are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in “Soil Taxonomy” (Soil Survey Staff, 1999) and “Keys to Soil Taxonomy” (Soil Survey Staff, 2006) and in the “Soil Survey Manual” (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in “Field Indicators of Hydric Soils in the United States” (Hurt and others, 2002).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

Map units that are dominantly made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units dominantly made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

The criteria for hydric soils are represented by codes in the table (for example, 2B3). Definitions for the codes are as follows:

1. All Histels except for Folistels, and Histosols except for Folists.
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
    - A. are somewhat poorly drained and have a water table at the surface (0.0 feet) during the growing season, or
    - B. are poorly drained or very poorly drained and have either:
        - 1) a water table at the surface (0.0 feet) during the growing season if textures are coarse sand, sand, or fine sand in all layers within a depth of 20 inches, or
        - 2) a water table at a depth of 0.5 foot or less during the growing season if saturated hydraulic conductivity (Ksat) is equal to or greater than 6.0 in/hr in all layers within a depth of 20 inches, or
        - 3) a water table at a depth of 1.0 foot or less during the growing season if saturated hydraulic conductivity (Ksat) is less than 6.0 in/hr in any layer within a depth of 20 inches.
3. Soils that are frequently ponded for long or very long duration during the growing season.
4. Soils that are frequently flooded for long or very long duration during the growing season.

Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, construction materials, and water management. The ratings are based on observed performance of the soils and on the data in the tables described under the heading "Soil Properties."

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil between the surface and a depth of 5 to 7 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about particle-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 7 feet of the surface, soil wetness, depth to a water table, ponding, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, saturated hydraulic conductivity (Ksat), corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, reclamation material, roadfill, and topsoil; plan structures for water management; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

Building Site Development

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. Tables 12a and 12b show the degree and kind of soil limitations that affect dwellings with and without basements, small commercial buildings, local roads and streets, shallow excavations, and lawns and landscaping.

The ratings in the tables are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Dwellings are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Small commercial buildings are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer.

Sanitary Facilities

Tables 13a and 13b show the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, sanitary landfills, and daily cover for landfill. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 72 inches or between a depth of 24 inches and a restrictive layer is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Saturated hydraulic conductivity (Ksat), depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, saturated hydraulic conductivity (Ksat), depth to a water table, ponding, depth to bedrock or a cemented pan, flooding, large stones, and content of organic matter.

Saturated hydraulic conductivity (Ksat) is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a Ksat rate of more than 14 micrometers per second are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Ground-water contamination is also a hazard if fractured bedrock is within a depth of 40 inches, if the water table is high enough to raise the level of sewage in the lagoon, or if floodwater overtops the lagoon.

A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor. If the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over bedrock or a cemented pan to make land smoothing practical.

A *trench sanitary landfill* is an area where solid waste is placed in successive layers in an excavated trench. The waste is spread, compacted, and covered daily with a thin layer of soil excavated at the site. When the trench is full, a final cover of soil material at least 2 feet thick is placed over the landfill. The ratings in the table are based on the soil properties that affect the risk of pollution, the ease of excavation, trafficability, and revegetation. These properties include saturated hydraulic conductivity (Ksat), depth to bedrock or a cemented pan, depth to a water table, ponding, slope, flooding, texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, onsite investigation may be needed.

Hard, nonrippable bedrock, creviced bedrock, or highly permeable strata in or directly below the proposed trench bottom can affect the ease of excavation and the hazard of ground-water pollution. Slope affects construction of the trenches and the movement of surface water around the landfill. It also affects the construction and performance of roads in areas of the landfill.

Soil texture and consistence affect the ease with which the trench is dug and the ease with which the soil can be used as daily or final cover. They determine the workability of the soil when dry and when wet. Soils that are plastic and sticky when wet are difficult to excavate, grade, or compact and are difficult to place as a uniformly thick cover over a layer of refuse.

The soil material used as the final cover for a trench landfill should be suitable for plants. It should not have excess sodium or salts and should not be too acid. The surface layer generally has the best workability, the highest content of organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

In an *area sanitary landfill*, solid waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site. A final cover of soil material at least 2 feet thick is placed over the completed landfill. The ratings in the table are based on the soil properties that affect trafficability and the risk of pollution. These properties include flooding, saturated hydraulic conductivity (Ksat), depth to a water table, ponding, slope, and depth to bedrock or a cemented pan.

Flooding is a serious problem because it can result in pollution in areas downstream from the landfill. If the downward movement of water through the soil profile is too rapid or if fractured bedrock, a fractured cemented pan, or the water table is close to the surface, the leachate can contaminate the water supply. Slope is a consideration because of the extra grading required to maintain roads in the steeper areas of the landfill. Also, leachate may flow along the surface of the soils in the steeper areas and cause difficult seepage problems.

Daily cover for landfill is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste. The ratings in the table also apply to the final cover for a landfill. They are based on the soil properties that affect workability, the ease of digging, and the ease of moving and spreading the material over the refuse daily during wet and dry periods. These properties include soil texture, depth to a water table, ponding, rock fragments, slope, depth to bedrock or a cemented pan, reaction, and content of salts, sodium, or lime.

Loamy or silty soils that are free of large stones and excess gravel are the best cover for a landfill. Clayey soils may be sticky and difficult to spread; sandy soils are subject to wind erosion.

Slope affects the ease of excavation and of moving the cover material. Also, it can influence runoff, erosion, and reclamation of the borrow area.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. It should not have excess sodium, salts, or lime and should not be too acid.

Construction Materials

Tables 14a and 14b give information about the soils as potential sources of gravel, sand, reclamation material, roadfill, and topsoil. Normal compaction, minor processing, and other standard construction practices are assumed.

Gravel and *sand* are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In table 14a, only the likelihood of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the bottom layer of the soil contains sand or gravel, the soil is considered a likely source regardless of thickness. The assumption is that the sand or gravel layer below the depth of observation exceeds the minimum thickness.

The soils are rated *good, fair,* or *poor* as potential sources of sand and gravel. A rating of *good* or *fair* means that the source material is likely to be in or below the soil. The bottom layer and the thickest layer of the soils are assigned numerical ratings. These ratings indicate the likelihood that the layer is a source of sand or gravel. The number 0.00 indicates that the layer is a poor source. The number 1.00 indicates that the layer is a good source. A number between 0.00 and 1.00 indicates the degree to which the layer is a likely source.

In table 14b, the rating class terms are *good, fair,* and *poor*. The features that limit the soils as sources of these materials are specified in the tables. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of reclamation material, roadfill, and topsoil. The lower the number, the greater the limitation.

Reclamation material is used in areas that have been drastically disturbed by surface mining or similar activities. When these areas are reclaimed, layers of soil material or unconsolidated geological material, or both, are replaced in a vertical sequence. The reconstructed soil favors plant growth. The ratings in the table do not apply to quarries and other mined areas that require an offsite source of reconstruction material. The ratings are based on the soil properties that affect erosion and stability of the surface and the productive potential of the reconstructed soil. These properties include the content of sodium, salts, and calcium carbonate; reaction; available water capacity; erodibility; texture; content of rock fragments; and content of organic matter and other features that affect fertility.

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, depth to a water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential).

Topsoil is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water capacity and fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, depth to a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, depth to a water table, rock fragments, depth to bedrock or a cemented pan, and toxic material.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

Water Management

Table 15 gives information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas; embankments, dikes, and levees; and aquifer-fed excavated ponds. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the saturated hydraulic conductivity (Ksat) of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

Embankments, dikes, and levees are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. Embankments that have zoned construction (core and shell) are not considered. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of 5 or 6 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects trafficability.

Aquifer-fed excavated ponds are pits or dugouts that extend to a ground-water aquifer or to a depth below a permanent water table. Excluded are ponds that are fed only by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Excavated ponds are affected by depth to a permanent water table, permeability of the aquifer, and quality of the water as inferred from the salinity of the soil. Depth to bedrock and the content of large stones affect the ease of excavation.

Soil Properties

Data relating to soil properties are collected during the course of the soil survey.

Soil properties are determined by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine particle-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties are shown in tables. They include engineering properties, physical and chemical properties, and pertinent soil and water features.

Engineering Properties

Table 16 gives the engineering classifications and the range of engineering properties for the layers of each soil in the survey area.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. “Loam,” for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, “gravelly.” Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

Physical Soil Properties

Table 17 shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller. Only the content of clay is listed in table 16.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In the table, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, saturated hydraulic conductivity (Ksat), plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at $^1/_3$- or $^1/_{10}$-bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute linear extensibility, shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Saturated hydraulic conductivity (Ksat) refers to the ability of a soil to transmit water or air. The estimates in the table indicate the rate of water movement, in micrometers per second, when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Saturated hydraulic conductivity (Ksat) is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at $^1/_3$- or $^1/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In the table, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained by returning crop residue to the soil. Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

Erosion factors are shown in the table as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and saturated hydraulic conductivity (Ksat). Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor Kw indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor Kf indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are described in the "National Soil Survey Handbook," which is available in local offices of the Natural Resources Conservation Service or on the Internet.

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Chemical Soil Properties

Table 18 shows estimates of some chemical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Cation-exchange capacity is the total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

Effective cation-exchange capacity refers to the sum of exchangeable cations plus aluminum expressed in terms of milliequivalents per 100 grams of soil. It is determined for soils that have pH of less than 5.5.

Soil reaction is a measure of acidity or alkalinity. The pH of each soil horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Salinity is a measure of soluble salts in the soil at saturation. It is expressed as the electrical conductivity of the saturation extract, in millimhos per centimeter at 25 degrees C. Estimates are based on field and laboratory measurements at representative sites of nonirrigated soils. The salinity of irrigated soils is affected by the quality of the irrigation water and by the frequency of water application. Hence, the salinity of soils in individual fields can differ greatly from the value given in the table. Salinity affects the suitability of a soil for crop production, the stability of soil if used as construction material, and the potential of the soil to corrode metal and concrete.

Water Features

Table 19 gives estimates of various water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas.

Surface runoff refers to the loss of water from an area by flow over the land surface. Surface runoff classes are based on slope, climate, and vegetative cover. It is assumed that the surface of the soil is bare and that the retention of surface water resulting from irregularities in the ground surface is minimal. The classes are negligible, very low, low, medium, high, and very high.

The *months* in the table indicate the portion of the year in which the feature is most likely to be a concern.

Water table refers to a saturated zone in the soil. The table indicates, by month, depth to the top (*upper limit*) and base (*lower limit*) of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. The table indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Duration and *frequency* are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year).

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

Soil Features

Table 20 gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

Subsidence is the settlement of organic soils or of saturated mineral soils of very low density. Subsidence generally results from either desiccation and shrinkage or oxidation of organic material, or both, following drainage. Subsidence takes place gradually, usually over a period of several years. The table shows the expected initial subsidence, which usually is a result of drainage, and total subsidence, which results from a combination of factors.

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, saturated hydraulic conductivity (Ksat), content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low, moderate,* or *high,* is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low, moderate,* or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1999 and 2006). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. The categories are defined in the following paragraphs.

ORDER. Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Ultisol.

SUBORDER. Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Udult (*Ud*, meaning humid, plus *ult*, from Ultisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; type of saturation; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Hapludults (*Hapl*, meaning minimal horizonation, plus *udult*, the suborder of the Ultisols that has a udic moisture regime).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic subgroup is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other taxonomic class. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Typic* identifies the subgroup that typifies the great group. An example is Typic Hapludults.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineralogy class, cation-exchange activity class, soil temperature regime, soil depth, and reaction class. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine-loamy, mixed, semiactive, thermic Typic Hapludults.

SERIES. The series consists of soils within a family that have horizons similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile.

Table 21 indicates the order, suborder, great group, subgroup, and family of the soil series in the survey area.

Soil Series and Their Morphology

In this section, each soil series recognized in the survey area is described. Characteristics of the soil and the material in which it formed are identified for each series. A pedon, a small three-dimensional area of soil, that is typical of the series in the survey area is described. The detailed description of each soil horizon follows standards in the “Soil Survey Manual” (Soil Survey Division Staff, 1993) and in the “Field Book for Describing and Sampling Soils” (Schoeneberger and others, 2002). Many of the technical terms used in the descriptions are defined in “Soil Taxonomy” (Soil Survey Staff, 1999) and in “Keys to Soil Taxonomy” (Soil Survey Staff, 2006). Unless otherwise indicated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

Arapahoe Series

Physiographic province: Lower Coastal Plain
Landform: Marine terraces
Parent material: Loamy and sandy marine sediments
Drainage class: Very poorly drained
Slowest saturated hydraulic conductivity: High
Depth class: Very deep
Slope range: 0 to 2 percent

Associated Soils

- Tetotum soils, which are moderately well drained, have a fine-loamy subsoil, and are in the higher landscape positions
- Portsmouth soils, which are very poorly drained, have a fine-loamy subsoil, and are in similar landscape positions
- Nimmo soils, which are poorly drained and are in similar landscape positions
- Tomotley soils, which are poorly drained, have a fine-loamy subsoil, and are in similar landscape positions

Taxonomic Classification

Coarse-loamy, mixed, semiactive, nonacid, thermic Typic Humaquepts

Typical Pedon

An Arapahoe soil in an area of Arapahoe loamy fine sand; in Pamlico County, NC; 7.5-minute USGS topographic quadrangle, Bayboro, NC; lat. 35 degrees 11 minutes 31 seconds N. and long. 76 degrees 49 minutes 50 seconds W.; elevation, 13 feet.

Ap—0 to 11 inches; black (10YR 2/1) loamy fine sand; weak medium granular structure; very friable; many fine roots; moderately acid; clear wavy boundary.

A—11 to 17 inches; very dark brown (10YR 2/2) loamy fine sand; weak medium granular structure; very friable; few fine roots; strongly acid; gradual wavy boundary.

Bg1—17 to 21 inches; dark gray (10YR 4/1) fine sandy loam; weak fine subangular blocky structure; very friable; few fine roots; common fine pores; common medium faint grayish brown (10YR 5/2) iron depletions; strongly acid; gradual wavy boundary.

Bg2—21 to 30 inches; dark gray (10YR 4/1) fine sandy loam; weak fine subangular blocky structure; very friable; common fine pores; common medium faint gray (10YR 6/1) iron depletions and few medium distinct dark yellowish brown (10YR 4/4) masses of oxidized iron; few thin lenses of sandy clay loam; strongly acid; gradual wavy boundary.

BCg—30 to 42 inches; dark gray (10YR 4/1) fine sandy loam; massive; very friable; common medium faint gray (10YR 6/1) iron depletions and common medium distinct dark yellowish brown (10YR 4/4) masses of oxidized iron; common pockets of loamy sand and sandy clay loam; slightly acid; gradual wavy boundary.

Cg1—42 to 60 inches; gray (10YR 5/1) loamy fine sand; massive; very friable; common pockets of sand; neutral; clear smooth boundary.
Cg2—60 to 80 inches; dark greenish gray (5GY 4/1) loamy fine sand; massive; very friable; common thin lenses of loam and clay loam; neutral.

Range in Characteristics

Solum thickness: 24 to 60 inches
Depth to seasonal high water table: 0 to 1.0 foot
Reaction: Extremely acid to strongly acid, except where lime has been applied

A or Ap horizon:
Color—neutral in hue or hue of 10YR to 5Y; value of 2 or 3 and chroma of 1 or 2
Texture—loam, sandy loam, fine sandy loam, loamy sand, or loamy fine sand or their mucky analogues

Bg horizon:
Color—neutral in hue or hue of 10YR to 5Y; value of 4 to 7 and chroma of 1 or 2
Texture—fine sandy loam, loam, or sandy loam
Redoximorphic features—iron depletions in shades of brown, olive, and gray and masses of oxidized iron in shades of brown, red, and yellow

Cg horizon:
Color—neutral in hue or hue of 10YR to 5Y; value of 4 to 7 and chroma of 1 or 2; greenish gray (5GY 5/1; 5G 5/1; 5BG 5/1) or dark greenish gray (5GY 4/1; 5G 4/1; 5BG 4/1) in some pedons
Texture—stratified loamy fine sand, loamy sand, fine sand, fine sandy loam, sandy loam, loam, or sand; thin lenses of fine textures in Cg horizon in some pedons

Barclay Series

Physiographic province: Lower Coastal Plain
Landform: Marine terraces
Parent material: Loamy marine sediments
Drainage class: Somewhat poorly drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 0 to 2 percent

Associated Soils

- Bertie soils, which have a fine-loamy subsoil and are in similar or slightly higher landscape positions
- Chapanoke soils, which have a fine-silty subsoil and are in similar landscape positions
- Nimmo soils, which are poorly drained, have a coarse-loamy subsoil, and are on flats and in depressions
- Pasquotank soils, which are poorly drained and are on flats and in depressions
- Tetotum soils, which are moderately well drained, have a fine-loamy subsoil, and are in similar landscape positions
- Yeopim soils, which are moderately well drained, have a fine-silty subsoil, and are in similar landscape positions

Taxonomic Classification

Coarse-silty, mixed, semiactive, nonacid, thermic Aeric Endoaquepts

Typical Pedon

A Barclay soil in an area of Barclay silt loam, 0 to 2 percent slopes; in Pasquotank County, NC; 7.5-minute USGS topographic quadrangle, Weeksville, NC; lat. 36 degrees 10 minutes 19 seconds N. and long. 76 degrees 09 minutes 02 seconds W.; elevation, 3 feet.

Ap—0 to 7 inches; grayish brown (10YR 5/2) silt loam; weak medium granular structure; very friable; few fine roots; slightly acid; clear smooth boundary.

Bw—7 to 18 inches; pale brown (10YR 6/3) very fine sandy loam; weak medium subangular blocky structure; very friable; few fine roots and pores; few fine faint light brownish gray (10YR 6/2) iron depletions and common medium faint light yellowish brown (10YR 6/4) masses of oxidized iron; moderately acid; gradual wavy boundary.

Bg1—18 to 40 inches; light gray (5Y 7/2) very fine sandy loam; very friable; weak medium subangular blocky structure; few fine roots and pores; few fine distinct light yellowish brown (10YR 6/4) masses of oxidized iron; few fine flakes of mica; few soft mineral grains; strongly acid; gradual wavy boundary.

Bg2—40 to 49 inches; light gray (5Y 7/1) very fine sandy loam; weak medium subangular blocky structure; very friable; common medium distinct brownish yellow (10YR 6/6) and very pale brown (10YR 7/4) masses of oxidized iron; few fine flakes of mica; few soft mineral grains; few lenses of loamy fine sand; strongly acid; gradual wavy boundary.

BCg—49 to 57 inches; light gray (5Y 7/1) fine sandy loam; weak medium subangular blocky structure; very friable; many coarse distinct pale brown (10YR 6/3) and many coarse prominent yellowish brown (10YR 5/8) masses of oxidized iron; common fine flakes of mica; soft mineral grains; common fine grains of dark minerals; strongly acid; gradual wavy boundary.

2Cg—57 to 72 inches; light olive gray (5Y 6/2) loamy sand; single grain; loose; many coarse distinct light olive brown (2.5Y 5/4) and many coarse prominent yellowish brown (10YR 5/8) masses of oxidized iron; many fine flakes of mica; common grains of soft minerals; many grains of dark minerals; strongly acid.

Range in Characteristics

Solum thickness: 30 to more than 70 inches
Depth to seasonal high water table: 1.0 to 1.5 feet
Reaction: Very strongly acid to moderately acid, except where lime has been applied

A or Ap horizon:
Color—neutral in hue or hue of 10YR to 5Y; value of 2 or 3 and chroma of 1 or 2
Texture—loam, sandy loam, fine sandy loam, loamy sand, or loamy fine sand or their mucky analogues

Bg horizon:
Color—neutral in hue or hue of 10YR to 5Y; value of 4 to 7 and chroma of 1 or 2
Texture—fine sandy loam, loam, or sandy loam
Redoximorphic features—iron depletions in shades of brown, olive, and gray and masses of oxidized iron in shades of brown, red, and yellow

Cg horizon:
Color—neutral in hue or hue of 10YR to 5Y; value of 4 to 7 and chroma of 1 or 2; greenish gray (5GY 5/1; 5G 5/1; 5BG 5/1) or dark greenish gray (5GY 4/1; 5G 4/1; 5BG 4/1) in some pedons
Texture—stratified loamy fine sand, loamy sand, fine sand, fine sandy loam, sandy loam, loam, or sand; thin lenses of fine textures in some pedons

Belhaven Series

Physiographic province: Lower Coastal Plain
Landform: Marine terraces and pocosins
Parent material: Highly decomposed organic matter underlain by loamy marine sediments
Drainage class: Very poorly drained
Slowest saturated hydraulic conductivity: Moderately high or high
Depth class: Very deep
Slope range: 0 to 2 percent

Associated Soils

- Conaby soils, which have organic layers to a depth of 8 to 16 inches and are in similar landscape positions
- Pungo soils, which have organic layers to a depth of more than 51 inches and are in similar landscape positions
- Cape Lookout soils, which have a clayey subsoil and are in similar landscape positions
- Wasda soils, which have organic layers to a depth of 8 to 16 inches and are in similar landscape positions
- Pettigrew soils, which have organic layers to a depth of 8 to 16 inches and are in similar landscape positions
- Hyde soils, which have organic layers less than 8 inches thick and are in similar landscape positions

Taxonomic Classification

Loamy, mixed, dysic, thermic Terric Haplosaprists (fig. 7)

Typical Pedon

A Belhaven soil in an area of Belhaven muck, 0 to 2 percent slopes; in Gates County, NC; 7.5-minute USGS topographic quadrangle, Corapeake, NC; lat. 36 degrees 32 minutes 49 seconds N. and long. 76 degrees 32 minutes 16 seconds W.; elevation, 21 feet.

Oa—0 to 20 inches; dark reddish brown (5YR 2/2, broken face and rubbed) woody muck; about 15 percent fiber, less than 1 percent fiber rubbed; about 20 percent mineral material; weak medium granular structure; friable, slightly sticky; many fine roots and stems; about 20 percent wood fragments; extremely acid; clear smooth boundary.
A—20 to 24 inches; very dark brown (10YR 2/2) mucky loam; massive; friable, slightly sticky; extremely acid; clear smooth boundary.
Cg1—24 to 40 inches; dark grayish brown (10YR 4/2) sandy clay loam; massive; slightly sticky; extremely acid; clear smooth boundary.
Cg2—40 to 65 inches; dark gray (N 4/) clay loam; massive; slightly sticky; very strongly acid; clear smooth boundary.
Cg3—65 to 72 inches; gray (10YR 5/1) sandy loam; massive; friable; very strongly acid.

Range in Characteristics

Thickness of organic layer: 16 to 51 inches
Depth to seasonal high water table: 0 to 1.0 foot
Reaction: Organic horizons are ultra acid or extremely acid, except where lime has been applied; underlying mineral horizons are extremely acid to moderately alkaline

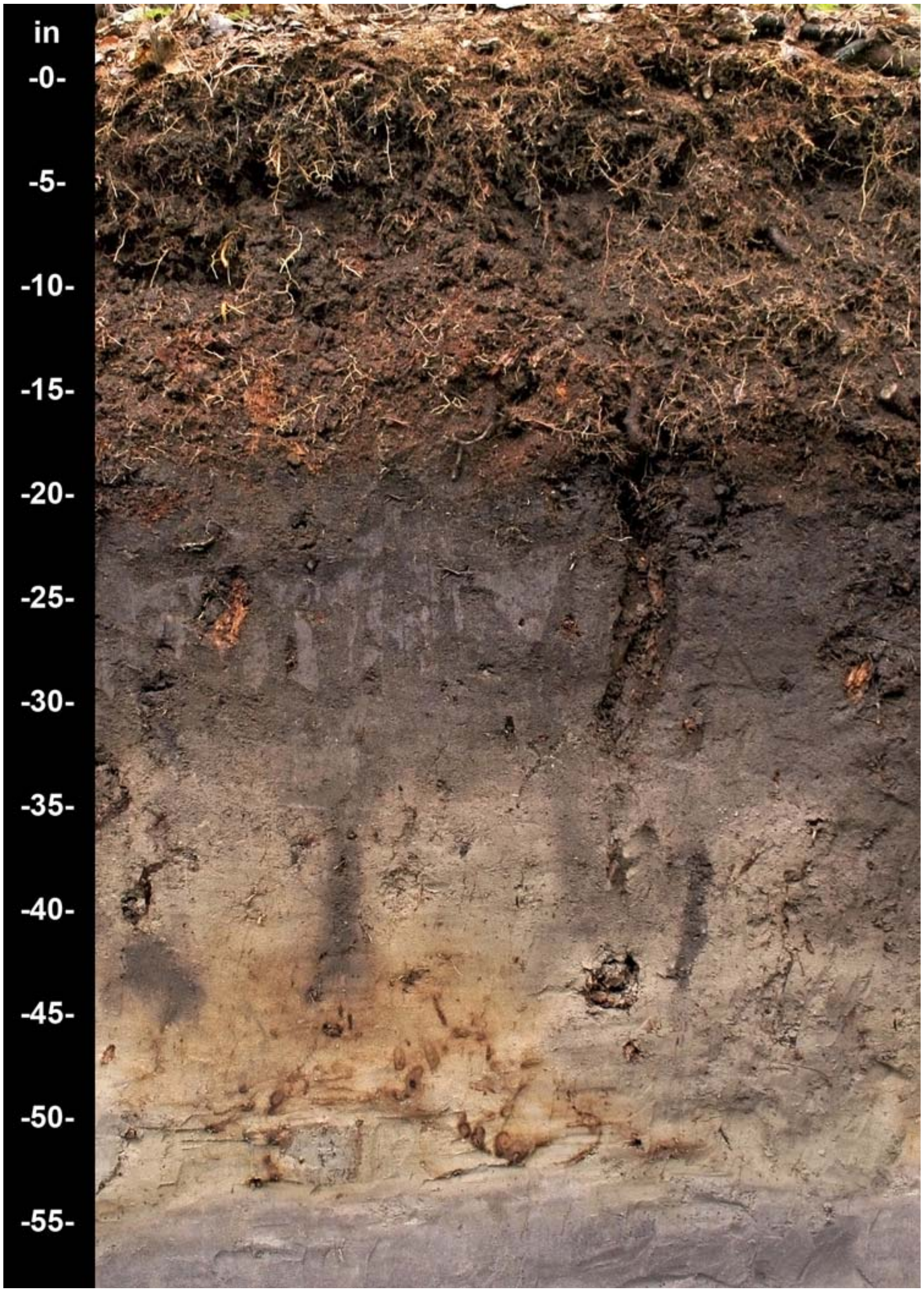

Figure 7.—A profile of a Belhaven soil.

Oa horizon (upper part):

Color—neutral in hue or hue of 5YR to 5Y; value of 2 or 3 and chroma of 1 or 2; 10 inches or more of upper part is hue of 2.5YR or 5YR

Texture—sapric material (muck) or its woody analogues

Oa horizon (lower part):

Color—neutral in hue or hue of 2.5YR to 10YR; value of 2 or 3 and chroma of 1 or 2

Texture—sapric material (muck)

AC or A horizon (where present):
Color—neutral in hue or hue of 2.5YR to 10YR; value of 2 or 3 and chroma of 1 or 2
Texture—fine sandy loam, sandy loam, loam, or sandy clay loam or their mucky analogues

C horizon (where present):
Color—neutral in hue or hue of 2.5YR to 5Y; value of 3 to 6 and chroma of 1 to 3
Texture—sandy loam, loam, clay loam, or sandy clay loam

Cg horizon:
Color—neutral in hue or hue of 2.5YR to 5Y, 5GY, or 5G; value of 4 to 7 and chroma of 1 or 2
Texture—sandy loam, loam, clay loam, or sandy clay loam or stratified sandy to clayey sediment
Redoximorphic features—iron depletions in shades of gray, olive, and white and masses of oxidized iron in shades of brown, yellow, and red

Bertie Series

Physiographic province: Lower Coastal Plain
Landform: Marine terraces
Parent material: Loamy and sandy marine sediments
Drainage class: Somewhat poorly drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 0 to 2 percent

Associated Soils

- Tetotum soils, which are moderately well drained and are in the slightly higher landscape positions
- Portsmouth soils, which are very poorly drained and are in depressions
- Tomotley soils, which are poorly drained and are in similar landscape positions
- Dragston soils, which have less clay in the subsoil and are in similar landscape positions
- Munden soils, which are moderately well drained, have less clay in the subsoil, and are in similar landscape positions
- Wahee soils, which have more clay in the subsoil and are in similar landscape positions

Taxonomic Classification

Fine-loamy, mixed, semiactive, thermic Aeric Endoaquults

Typical Pedon

A Bertie soil in an area of Bertie fine sandy loam, 0 to 2 percent slopes; in Pasquotank County, NC; 7.5-minute USGS topographic quadrangle, South Mills, NC; lat. 36 degrees 24 minutes 25 seconds N. and long. 76 degrees 22 minutes 23 seconds W.; elevation, 10 feet.

Ap—0 to 5 inches; dark grayish brown (2.5Y 4/2) fine sandy loam; weak medium granular structure; very friable; common fine roots; slightly acid; clear smooth boundary.
Bt1—5 to 8 inches; light olive brown (2.5Y 5/6) loam; weak fine subangular blocky structure; very friable; few fine roots; common fine tubular pores; many medium

prominent dark grayish brown (2.5Y 4/2) iron depletions; slightly acid; clear wavy boundary.

Bt2—8 to 15 inches; light olive brown (2.5Y 5/3) loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; common fine tubular roots; few fine roots; many medium distinct light olive brown (2.5Y 5/6) masses of oxidized iron; moderately acid; clear smooth boundary.

Bt3—15 to 23 inches; light olive brown (2.5Y 5/3) loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; many medium distinct gray (2.5Y 6/1) iron depletions and common medium prominent yellowish brown (10YR 5/6) masses of oxidized iron; moderately acid; clear smooth boundary.

BCg—23 to 31 inches; gray (2.5Y 6/1) sandy loam; weak medium subangular blocky structure; very friable; many medium prominent strong brown (7.5YR 5/6) and common medium distinct light olive brown (2.5Y 5/4) masses of oxidized iron; strongly acid; clear smooth boundary.

Cg1—31 to 43 inches; gray (2.5Y 6/1) loamy sand; weak coarse granular structure; very friable; common medium prominent yellowish brown (10YR 5/6) and light olive brown (2.5Y 5/6) masses of oxidized iron; strongly acid; abrupt smooth boundary.

Cg2—43 to 60 inches; light yellowish brown (2.5Y 6/4) sand; massive; loose; common medium distinct gray (2.5Y 6/1) iron depletions; very strongly acid.

Range in Characteristics

Solum thickness: 30 to 60 inches
Depth to seasonal high water table: 1.0 to 2.0 feet
Reaction: Very strongly acid to moderately acid, except where lime has been applied

A or Ap horizon:
Color—hue of 10YR or 2.5Y, value of 3 to 6, and chroma of 1 or 2
Texture—loamy sand, loamy fine sand, fine sandy loam, or sandy loam

E or BE horizon (where present):
Color—hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 3 to 8
Texture—loamy sand, loamy fine sand, fine sandy loam, or sandy loam
Redoximorphic features—iron depletions in shades of brown, olive, yellow, and gray and masses of oxidized iron in shades of red

Bt horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 4 to 8
Texture—sandy clay loam, clay loam, loam, or sandy loam; silt content less than 30 percent
Redoximorphic features—iron depletions in shades of brown, olive, yellow, and gray and masses of oxidized iron in shades of red

BC or BCg horizon:
Color—neutral in hue or hue of 7.5YR to 2.5Y; value of 4 to 6 and chroma of 1 to 8
Texture—sandy clay loam, clay loam, or sandy loam
Redoximorphic features—iron depletions in shades of brown, olive, yellow, and gray and masses of oxidized iron in shades of red

C or Cg horizon:
Color—neutral in hue or hue of 10YR or 2.5Y; value of 3 to 7 and chroma of 1 to 6
Texture—sandy loam, fine sandy loam, loamy sand, loamy fine sand, or fine sand; pockets or strata of loamy or clayey material in some pedons
Redoximorphic features—iron depletions in shades of brown, olive, yellow, and gray and masses of oxidized iron in shades of red

Bojac Series

Physiographic province: Lower Coastal Plain
Landform: Marine terraces and stream terraces
Parent material: Loamy and sandy fluvial and marine sediments
Drainage class: Well drained
Slowest saturated hydraulic conductivity: High
Depth class: Very deep
Slope range: 0 to 2 percent

Associated Soils

- Tetotum soils, which are moderately well drained, have a fine-loamy subsoil, and are in similar landscape positions
- Bertie soils, which are somewhat poorly drained, have a fine-loamy subsoil, and are in depressions
- Munden soils, which are moderately well drained and are in similar landscape positions
- Seabrook soils, which are moderately well drained, are sandy toout, and are in similar landscape positions

Taxonomic Classification

Coarse-loamy, mixed, semiactive, thermic Typic Hapludults

Typical Pedon

A Bojac soil in an area of Bojac loamy fine sand, 0 to 2 percent slopes, frequently flooded; in Greensville County, VA; 7.5-minute USGS topographic quadrangle, Claresville, VA; lat. 36 degrees 34 minutes 20 seconds N. and long. 77 degrees 29 minutes 08 seconds W.; elevation, 66 feet.

Ap—0 to 8 inches; brown (10YR 4/3) loamy fine sand; single grain; loose; many fine roots; neutral; abrupt smooth boundary.

Bt1—8 to 13 inches; yellowish brown (10YR 5/6) fine sandy loam; many medium distinct dark yellowish brown (10YR 4/4) mottles; weak fine subangular blocky structure; very friable; common fine roots; sand grains bridged and coated with clay; strongly acid; diffuse smooth boundary.

Bt2—13 to 25 inches; yellowish brown (10YR 5/6) fine sandy loam; weak medium subangular blocky structure; very friable; few fine roots; sand grains bridged and coated with clay; very strongly acid; diffuse smooth boundary.

Bt3—25 to 37 inches; strong brown (7.5YR 5/6) fine sandy loam; weak medium subangular blocky structure; very friable; few fine roots; sand grains bridged and coated with clay; strongly acid; diffuse smooth boundary.

Bt4—37 to 47 inches; yellowish brown (10YR 5/8) fine sandy loam; weak medium subangular blocky structure; very friable; sand grains bridged and coated with clay; many medium prominent very pale brown (10YR 7/4) masses of oxidized iron; very strongly acid; diffuse smooth boundary.

C1—47 to 70 inches; very pale brown (10YR 7/3) loamy fine sand; single grain; loose; very strongly acid; diffuse smooth boundary.

C2—70 to 85 inches; yellow (10YR 7/6) coarse sand; single grain; loose; 2 percent gravel; common medium faint yellowish brown (10YR 5/6) masses of oxidized iron; very strongly acid.

Range in Characteristics

Solum thickness: 30 to 65 inches
Depth to seasonal high water table: 4.0 to 6.0 feet
Reaction: Extremely acid to slightly acid, except where lime has been applied

A or Ap horizon:
Color—hue of 7.5YR to 2.5Y, value of 3 to 6, and chroma of 1 to 4; horizon less than 6 inches thick where value is 3 and the chroma is 1 or 2
Texture—loamy sand, loamy fine sand, sandy loam, fine sandy loam, or loam

E horizon (where present):
Color—hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 4 or 6
Texture—loamy sand, loamy fine sand, sandy loam, fine sandy loam, or loam

BA or BE horizon (where present):
Color—hue of 5YR to 2.5Y, value of 4 to 7, and chroma of 3 to 6
Texture—sandy loam, fine sandy loam, or loam

Bt horizon:
Color—hue of 5YR to 10YR, value of 4 to 6, and chroma of 4 to 8
Texture—sandy loam, fine sandy loam, or loam; thin subhorizons of sandy clay loam or clay loam in some pedons; lower boundary gradual or diffuse or more than 50 percent finer and coarser sand in the B horizon
Redoximorphic features—iron depletions that have chroma of 2 or less in some pedons below 40 inches

BC or CB horizon (where present):
Color—hue of 5YR to 10YR, value of 4 to 6, and chroma of 4 to 8
Texture—loamy sand or loamy fine sand
Redoximorphic features—iron depletions in shades of olive and gray and masses of oxidized iron in shades of brown, yellow, and red

C horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 3 to 8
Texture (fine-earth fraction)—generally stratified, ranging from coarse sand to loamy fine sand
Redoximorphic features—iron depletions in shades of olive and gray and masses of oxidized iron in shades of brown, yellow, and red

Cape Lookout Series

Physiographic province: Lower Coastal Plain
Landform: Pocosins and marine terraces
Parent material: Clayey marine sediments
Drainage class: Very poorly drained
Slowest saturated hydraulic conductivity: Moderately low
Depth class: Very deep
Slope range: 0 to 2 percent

Associated Soils

- Deloss and Portsmouth soils, which have a fine-loamy subsoil and are in similar landscape positions
- Roper soils, which have a fine-silty subsoil, have organic layers 8 to 16 inches thick, and are in similar landscape positions
- Gertie soils, which are poorly drained and are in similar landscape positions
- Hyde soils, which have a fine-silty subsoil and are in similar landscape positions

Taxonomic Classification

Fine, mixed, semiactive, thermic Typic Umbraquults

Typical Pedon

A Cape Lookout soil in an area of Cape Lookout silt loam, 0 to 2 percent slopes; in Pasquotank County, NC; 7.5-minute USGS topographic quadrangle, South Mills, NC; lat. 36 degrees 22 minutes 36 seconds N. and long. 76 degrees 22 minutes 13 seconds W.; elevation, 10 feet.

Ap—0 to 7 inches; very dark gray (10YR 3/1) silt loam; moderate fine granular structure; very friable; many fine and very fine roots; few fine and medium distinct dark brown (10YR 3/3) masses of oxidized iron on ped faces in the lower part of the horizon; moderately acid; abrupt smooth boundary.

BA—7 to 12 inches; very dark gray (2.5Y 3/1) silt loam; moderate medium subangular blocky structure; friable, slightly sticky, slightly plastic; common fine roots; common fine and medium distinct dark brown (10YR 3/3) and olive yellow (2.5Y 6/6) masses of oxidized iron; strongly acid; clear smooth boundary.

Btg1—12 to 16 inches; dark gray (2.5Y 4/1) clay loam; moderate coarse subangular blocky structure; very firm, moderately sticky, moderately plastic; few fine roots; many fine and few medium dendritic tubular pores; common medium distinct olive yellow (2.5Y 6/6) and dark brown (10YR 3/3) masses of oxidized iron; strongly acid; clear smooth boundary.

Btg2—16 to 37 inches; gray (2.5Y 5/1) clay; strong coarse subangular blocky structure; firm, very sticky, moderately plastic; few very fine roots; common medium distinct dark gray (2.5Y 4/1) and light gray (2.5Y 7/1) iron depletions and many medium and coarse prominent light olive brown (2.5Y 5/3) masses of oxidized iron; strongly acid; clear smooth boundary.

Btg3—37 to 42 inches; gray (5Y 5/1) clay; moderate coarse subangular blocky structure; firm, moderately sticky, moderately plastic; common medium distinct dark gray (2.5Y 4/1) and light gray (2.5Y 7/1) and many medium distinct greenish gray (5GY 5/1) iron depletions; strongly acid; gradual wavy boundary.

BCg—42 to 50 inches; gray (5Y 5/1) sandy clay loam; weak coarse subangular blocky structure; firm, moderately sticky, moderately plastic; common medium distinct dark gray (2.5Y 4/1) and light gray (2.5Y 7/1) iron depletions; strongly acid; gradual wavy boundary.

Cg—50 to 62 inches; gray (2.5Y 6/1) sandy loam; massive; friable, slightly sticky, slightly plastic; strongly acid.

Range in Characteristics

Solum thickness: 30 to 60 inches
Depth to seasonal high water table: 0 to 1.0 foot
Reaction: Very strongly acid to moderately acid, except where lime has been applied

Ap horizon:
Color—neutral in hue or hue of 10YR or 2.5Y; value of 2 or 3 and chroma of 1 or 2
Texture—loam, sandy loam, silt loam, fine sandy loam, or very fine sandy loam or their mucky analogues

BA or BE horizon (where present):
Color—neutral in hue or hue of 10YR to 5Y; value of 3 or 4 and chroma of 1 or 2
Texture—clay loam, silty clay loam, sandy clay loam, or loam
Redoximorphic features—masses of oxidized iron in shades of brown and yellow

Btg horizon:
Color—neutral in hue or hue of 10YR to 5GY; value of 4 to 7 and chroma of 1 or 2
Texture—clay, sandy clay, clay loam, or silty clay
Redoximorphic features—iron depletions in shades of gray and masses of oxidized iron in shades of brown and yellow

BCg horizon:
Color—neutral in hue or hue of 10YR to 5GY; value of 4 to 7 and chroma of 1 or 2
Texture—silty clay loam, clay loam, silt loam, loam, sandy clay loam, or sandy loam
Redoximorphic features—iron depletions in shades of gray and masses of oxidized iron in shades of brown and yellow

Cg horizon:
Color—neutral in hue or hue of 10YR to 5GY; value of 4 to 7 and chroma of 1 or 2
Texture—silt loam, loam, sandy loam, or loamy sand
Redoximorphic features—iron depletions in shades of gray and masses of oxidized iron in shades of brown and yellow

Chapanoke Series

Physiographic province: Lower Coastal Plain
Landform: Marine terraces
Parent material: Loamy marine sediments
Drainage class: Somewhat poorly drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 0 to 2 percent

Associated Soils

- Barclay soils, which have a coarse-silty subsoil and are in similar landscape positions
- Bertie soils, which have a fine-loamy subsoil and are in the higher landscape positions
- Nixonton soils, which are well drained and are in similar landscape positions
- Perquimans soils, which are poorly drained and are in similar landscape positions
- Tetotum soils, which are moderately well drained and are in similar landscape positions
- Wahee soils, which have a clayey subsoil and are in similar landscape positions
- Yeopim soils, which are moderately well drained and are in similar landscape positions

Taxonomic Classification

Fine-silty, mixed, semiactive, thermic Aeric Endoaquults

Typical Pedon

A Chapanoke soil in an area of Chapanoke silt loam; in Perquimans County, NC; 7.5-minute USGS topographic quadrangle, Hertford, NC; lat. 36 degrees 13 minutes 17 seconds N. and long. 76 degrees 22 minutes 48 seconds W.; elevation, 8 feet.

Ap—0 to 6 inches; grayish brown (2.5Y 5/2) silt loam; weak medium granular structure; friable; few fine and medium roots; moderately acid; clear smooth boundary.

Bt—6 to 12 inches; olive yellow (2.5Y 6/6) loam; weak medium subangular blocky structure; friable, slightly sticky; few fine roots; common medium prominent light brownish gray (2.5Y 6/2) iron depletions and common medium prominent brownish yellow (10YR 6/8) masses of oxidized iron; few faint clay films on faces of peds; few fine flakes of mica; strongly acid; clear smooth boundary.

Btg1—12 to 30 inches; light gray (2.5Y 7/2) silty clay loam; friable, slightly sticky, slightly plastic; few fine roots; common medium prominent brownish yellow (10YR

6/8) masses of oxidized iron; weak medium subangular blocky structure; few faint clay films on faces of peds; common fine flakes of mica; strongly acid; clear smooth boundary.

Btg2—30 to 50 inches; gray (10YR 6/1) silt loam; weak fine subangular blocky structure; friable; common medium prominent brownish yellow (10YR 6/6) and pale yellow (2.5Y 7/4) masses of oxidized iron; common fine flakes of mica; strongly acid; gradual smooth boundary.

Cg—50 to 62 inches; gray (10YR 6/1) loamy fine sand; single grain; loose; common coarse prominent brownish yellow (10YR 6/6) masses of oxidized iron; common fine flakes of mica; many fine dark opaque minerals; strongly acid; gradual smooth boundary.

C—62 to 80 inches; brownish yellow (10YR 6/6) fine sand; single grain; loose; few fine prominent light brownish gray (10YR 6/2) iron depletions; common fine flakes of mica; many fine dark opaque minerals; strongly acid.

Range in Characteristics

Solum thickness: 30 to 60 inches
Depth to seasonal high water table: 1.0 to 2.0 feet
Reaction: Extremely acid to slightly acid, except where lime has been applied

A or Ap horizon:
Color—hue of 10YR to 5Y, value of 4 to 7, and chroma of 2 to 6
Texture—silt loam, loam, fine sandy loam, or very fine sandy loam

E horizon (where present):
Color—hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 1 to 3
Texture—silt, silt loam, loam, fine sandy loam, or very fine sandy loam
Redoximorphic features—iron depletions in shades of brown, olive, and gray and masses of oxidized iron in shades of brown, red, and yellow

AB or BA horizon (where present):
Color—hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 3 to 6
Texture—loam, silt loam, or very fine sandy loam
Redoximorphic features—iron depletions in shades of brown, olive, and gray and masses of oxidized iron in shades of brown, red, and yellow

Bt horizon:
Color—hue of 10YR to 5Y, value of 4 to 7, and chroma of 3 to 8; hue of 10YR only within upper 4 inches of horizon
Texture—loam, silt loam, silty clay loam, or clay loam; thin layers of silty clay, fine sandy loam, very fine sandy loam, or sandy loam in some pedons
Redoximorphic features—iron depletions in shades of white, olive, and gray and masses of oxidized iron in shades of brown, red, and yellow

Btg horizon:
Color—neutral in hue or hue of 10YR to 5GY; value of 4 to 7 and chroma of 1 or 2
Texture—loam, silt loam, silty clay loam, or clay loam; thin layers of silty clay, fine sandy loam, very fine sandy loam, or sandy loam in some pedons
Redoximorphic features—iron depletions in shades of white, olive, and gray and masses of oxidized iron in shades of brown, red, and yellow

BCg or CBg horizon (where present):
Color—neutral in hue or hue of 10YR to 5GY; value of 4 to 7 and chroma of 1 or 2
Texture—stratified loamy sand to loam
Redoximorphic features—iron depletions in shades of white, olive, and gray and masses of oxidized iron in shades of brown, red, and yellow

Cg horizon:

Color—neutral in hue or hue of 10YR to 5Y; value of 4 to 7 and chroma of 1 or 2
Texture—stratified sand to loam; thin strata of clay in some pedons
Redoximorphic features—iron depletions in shades of white, olive, and gray and masses of oxidized iron in shades of brown, red, and yellow

C horizon:

Color—hue of 10YR to 5Y, value of 4 to 7, and chroma of 3 to 8
Texture—stratified sand to loam; thin strata of clay in some pedons
Redoximorphic features—iron depletions in shades of white, olive, and gray and masses of oxidized iron in shades of brown, red, and yellow

Chesapeake Series

Physiographic province: Lower Coastal Plain
Landform: Marine terraces and stream terraces
Parent material: Loamy fluvial and marine sediments
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 0 to 2 percent

Associated Soils

- Bertie soils, which are somewhat poorly drained and are in similar landscape positions
- Bojac soils, which have a coarse-loamy subsoil and are in similar landscape positions
- Tetotum soils, which are moderately well drained, average more than 30 percent silt in the upper argillic horizon, and are in similar landscape positions
- Tomotley soils, which are poorly drained and are on flats and in depressions
- Yeopim soils, which have less sand in the subsoil, are moderately well drained, and are in similar landscape positions

Taxonomic Classification

Fine-loamy, mixed, semiactive, thermic Typic Hapludults

Typical Pedon

A Chesapeake soil in an area of Chesapeake sandy loam, 0 to 2 percent slopes; in the City of Chesapeake, VA; USGS topographic quadrangle, Fentress, VA; lat. 36 degrees 42 minutes 46 seconds N. and long. 76 degrees 08 minutes 20 seconds W.; elevation, 9 feet.

Ap—0 to 7 inches; dark grayish brown (10YR 4/2) sandy loam; weak fine granular structure; very friable; common fine and medium roots; moderately acid; abrupt smooth boundary.

Bt1—7 to 28 inches; dark yellowish brown (10YR 4/4) sandy clay loam; moderate medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine and medium roots; many clay bridges between sand grains; strongly acid; clear smooth boundary.

Bt2—28 to 52 inches; strong brown (7.5YR 4/6) sandy loam; weak fine subangular blocky structure; very friable, slightly sticky; few fine roots; few discontinuous clay films on all faces of peds; many clay bridges between sand grains; strongly acid; clear smooth boundary.

BC—52 to 58 inches; yellowish brown (10YR 5/6) loamy sand; weak fine subangular blocky structure; very friable; common clay bridges between sand grains; strongly acid; clear smooth boundary.
C—58 to 65 inches; brownish yellow (10YR 6/8) sand; single grain; loose; very strongly acid.

Range in Characteristics

Solum thickness: 30 to 65 inches or more
Depth to seasonal high water table: 4.0 to 6.0 feet
Reaction: Extremely acid to strongly acid, except where lime has been applied

A or Ap horizon:
Color—hue of 10YR or 2.5Y, value of 2 to 6, and chroma of 1 to 6; less than 6 inches thick where value less than 3
Texture—loamy sand, loamy fine sand, sandy loam, fine sandy loam

E horizon (where present):
Color—hue of 7.5YR to 2.5Y, value of 5 to 7, and chroma of 3 to 8
Texture—fine sand, loamy sand, or loamy fine sand

BA or BE horizon (where present):
Color—hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 4 to 8
Texture—sandy loam, fine sandy loam, very fine sandy loam, or loam

Bt horizon:
Color—hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 4 to 8
Texture—sandy loam, fine sandy loam, loam, sandy clay loam, or clay loam

BC or CB horizon (where present):
Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 4 to 8
Texture—loamy sand, loamy fine sand, sandy loam, fine sandy loam, very fine sandy loam, loam, or sandy clay loam
Redoximorphic features—iron depletions in shades of gray, yellow, and brown and masses of oxidized iron in shades of red, yellow, and brown in some pedons

C or 2C horizon:
Color—hue of 7.5YR to 2.5Y, value of 5 to 7, and chroma of 4 to 8
Texture—fine sand, sand, loamy sand, loamy fine sand, or fine sandy loam
Redoximorphic features—iron depletions in shades of gray, yellow, and brown and masses of oxidized iron in shades of red, yellow, and brown in some pedons

Chowan Series

Physiographic province: Lower Coastal Plain
Landform: Flood plains
Parent material: Loamy marine sediments over highly decomposed organic material
Drainage class: Poorly drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 0 to 2 percent

Associated Soils

- Belhaven soils, which have organic surface layers 16 to 51 inches thick and are in similar landscape positions and at the heads of drainageways

- Conaby and Wasda soils, which have organic surface layers 8 to 16 inches thick and are in similar landscape positions and at the heads of drainageways
- Dorovan soils, which are very poorly drained, have organic layers more than 51 inches thick, and are in similar landscape positions

Taxonomic Classification

Fine-silty, mixed, active, nonacid, thermic Thapto-Histic Fluvaquents

Typical Pedon

A Chowan soil in an area of Chowan silt loam; in Chowan County, NC; 7.5-minute USGS topographic quadrangle, Edenton, NC; lat. 36 degrees 03 minutes 43 seconds N. and long. 76 degrees 34 minutes 48 seconds W.; elevation, 10 feet.

A—0 to 6 inches; dark grayish brown (10YR 4/2) silt loam; massive; friable, slightly sticky; common medium and coarse roots; moderately acid; gradual wavy boundary.

Cg1—6 to 20 inches; gray (10YR 5/1) silty clay loam; massive; friable, moderately sticky; common coarse roots; moderately acid; gradual wavy boundary.
Cg2—20 to 27 inches; dark grayish brown (10YR 4/2) silt loam; massive; friable, slightly sticky; few coarse roots; moderately acid; gradual wavy boundary.
2Oa—27 to 80 inches; black (5YR 2/1) muck; about 30 percent fiber, less than 10 percent fiber rubbed; massive; very friable; common logs and stumps; extremely acid.

Range in Characteristics

Thickness of mineral layer: 16 to 40 inches
Thickness of organic layer: 16 to more than 80 inches
Depth to seasonal high water table: 0 to 0.5 foot
Reaction: Extremely acid to moderately acid in the mineral horizons and extremely acid or very strongly acid in the organic horizons
Other distinctive features: Stumps and logs common toout Oa horizon in most pedons

A horizon:
Color—hue of 10YR to 5Y, value of 2 to 5, and chroma of 1 or 2; less than 10 inches thick where value less than 3
Texture—silt loam, loam, or silty clay loam

Cg horizon:
Color—hue of 10YR to 5Y, value of 2 to 5, and chroma of 1 or 2
Texture—loam, silt loam, silty clay loam, mucky silt loam, or mucky loam

2Oa horizon:
Color—hue of 5YR to 2.5Y, value of 2 or 3, and chroma of 1 to 3
Texture—sapric material 16 inches to several feet thick

Conaby Series

Physiographic province: Lower Coastal Plain
Landform: Marine terraces
Parent material: Sandy and loamy marine sediments
Drainage class: Very poorly drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 0 to 2 percent

Associated Soils

- Belhaven soils, which have organic layers 16 to 51 inches thick and are in similar landscape positions
- Cape Lookout soils, which have a mineral or mucky mineral surface and a clayey subsoil and are in similar landscape positions
- Deloss and Portsmouth soils, which have a mineral or mucky mineral surface and a fine-loamy subsoil and are in the slightly higher or in similar landscapes positions
- Pettigrew soils, which have a clayey subsoil and are in similar landscape positions
- Wasda soils, which have a fine-loamy subsoil and are in similar landscape positions

Taxonomic classification

Coarse-loamy, mixed, semiactive, nonacid, thermic Histic Humaquepts

Typical Pedon

A Conaby soil in an area of Wasda-Conaby complex, 0 to 2 percent slopes; in Pasquotank County, NC; 7.5-minute USGS topographic quadrangle, Lambs Corner, NC; lat. 36 degrees 24 minutes 29 seconds N. and long. 76 degrees 10 minutes 47 seconds W.; elevation, 7 feet.

Oap—0 to 8 inches; black (10YR 2/1, broken face and rubbed) muck; less than 1 percent fiber rubbed; weak fine granular structure; very friable; few fine roots; extremely acid; abrupt smooth boundary.

Oa—8 to 12 inches; gray (5YR 5/1, broken face and rubbed) muck; less than 1 percent fiber rubbed; moderate medium subangular blocky structure; friable; few fine roots; extremely acid; gradual smooth boundary.

A—12 to 20 inches; black (10YR 2/1) mucky sandy loam; weak medium subangular blocky structure; friable, slightly sticky; common fine and very fine roots; extremely acid; clear smooth boundary.

Bg1—20 to 27 inches; very dark gray (2.5Y 3/1) sandy loam; weak medium subangular blocky structure; friable; common fine and very fine roots; extremely acid; gradual smooth boundary.

Bg2—27 to 38 inches; gray (2.5Y 5/1) sandy loam; weak medium subangular blocky structure; friable; few very fine roots; extremely acid; gradual smooth boundary.

Bg3—38 to 55 inches; gray (2.5Y 5/1) and very dark grayish brown (2.5Y 3/2) sandy loam; weak fine subangular blocky structure; very friable; few fine prominent yellowish brown (10YR 5/8) masses of oxidized iron; extremely acid; gradual smooth boundary.

Cg—55 to 60 inches; greenish gray (5GY 6/1) and gray (10YR 5/1) sandy loam; massive; very friable; common medium prominent yellowish brown (10YR 5/8) masses of oxidized iron; extremely acid.

Range in Characteristics

Thickness of organic layer: 8 to 16 inches
Depth to seasonal high water table: 0 to 1.0 foot
Reaction: Extremely acid to strongly acid in the upper part of the control section and moderately acid to mildly alkaline in the lower part of the control section and in the C horizons

Oap or Oa1 horizon:
Color—hue of 5YR to 2.5Y, value of 2 or 3, and chroma of 1 or 2
Texture—sapric material (muck)

Oa2 and Oa3 horizons:
Color—neutral in hue or hue of 2.5YR to 2.5Y; value of 2 or 3 and chroma of 1 to 4
Texture—sapric material (muck)

A horizon:
Color—hue of 7.5YR to 5Y, value of 2 to 5, and chroma of 1 to 3
Texture—sand, loamy sand, fine sand, loamy fine sand, sandy loam, or fine sandy loam or their mucky analogues

Bg horizon:
Color—hue of 10YR to 5Y, value of 3 to 5, and chroma of 1 or 2
Texture—sandy loam, fine sandy loam, or loam
Redoximorphic features—masses of oxidized iron in shades of brown, yellow, and red

C horizon (where present):
Color—hue of 10YR to 5Y, values of 3 to 5, and chroma of 3 or 4
Texture—sand, fine sand, loamy sand, loamy fine sand, sandy loam, or fine sandy loam; less than 6 inches thick

Cg horizon:
Color—neutral in hue or hue of 10YR to 5G; value of 4 to 6 and chroma of 1 or 2
Texture—commonly sand or loamy sand; or stratified with these textures and have thin layers of sandy loam or finer textures

Deloss Series

Physiographic province: Lower Coastal Plain
Landform: Marine terraces
Parent material: Loamy marine and alluvial sediments
Drainage class: Very poorly drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 0 to 2 percent

Associated Soils

- Cape Lookout soils, which have a fine subsoil and are in similar landscape positions
- Gertie soils, which are poorly drained, have a clayey subsoil, and are in similar landscape positions
- Hyde soils, which have a fine-silty subsoil and are in similar landscape positions
- Portsmouth soils, which have sandy horizons within 40 inches of the surface and are in similar landscape positions
- Tomotley soils, which are poorly drained and are in similar landscape positions
- Wasda and Conaby soils, which have organic surface layers 8 to 16 inches thick and are in similar landscape positions

Taxonomic Classification

Fine-loamy, mixed, semiactive, thermic Typic Umbraquults (fig. 8)

Typical Pedon

A Deloss soil in an area of Deloss fine sandy loam; in Carteret County, NC; 7.5-minute USGS topographic quadrangle, Core Creek, NC; lat. 34 degrees 48 minutes 54 seconds N. and long. 76 degrees 42 minutes 35 seconds W.; elevation, 9 feet.

Ap—0 to 15 inches; black (10YR 2/1) fine sandy loam; weak medium granular structure; very friable; many fine and medium roots; very strongly acid; clear wavy boundary.

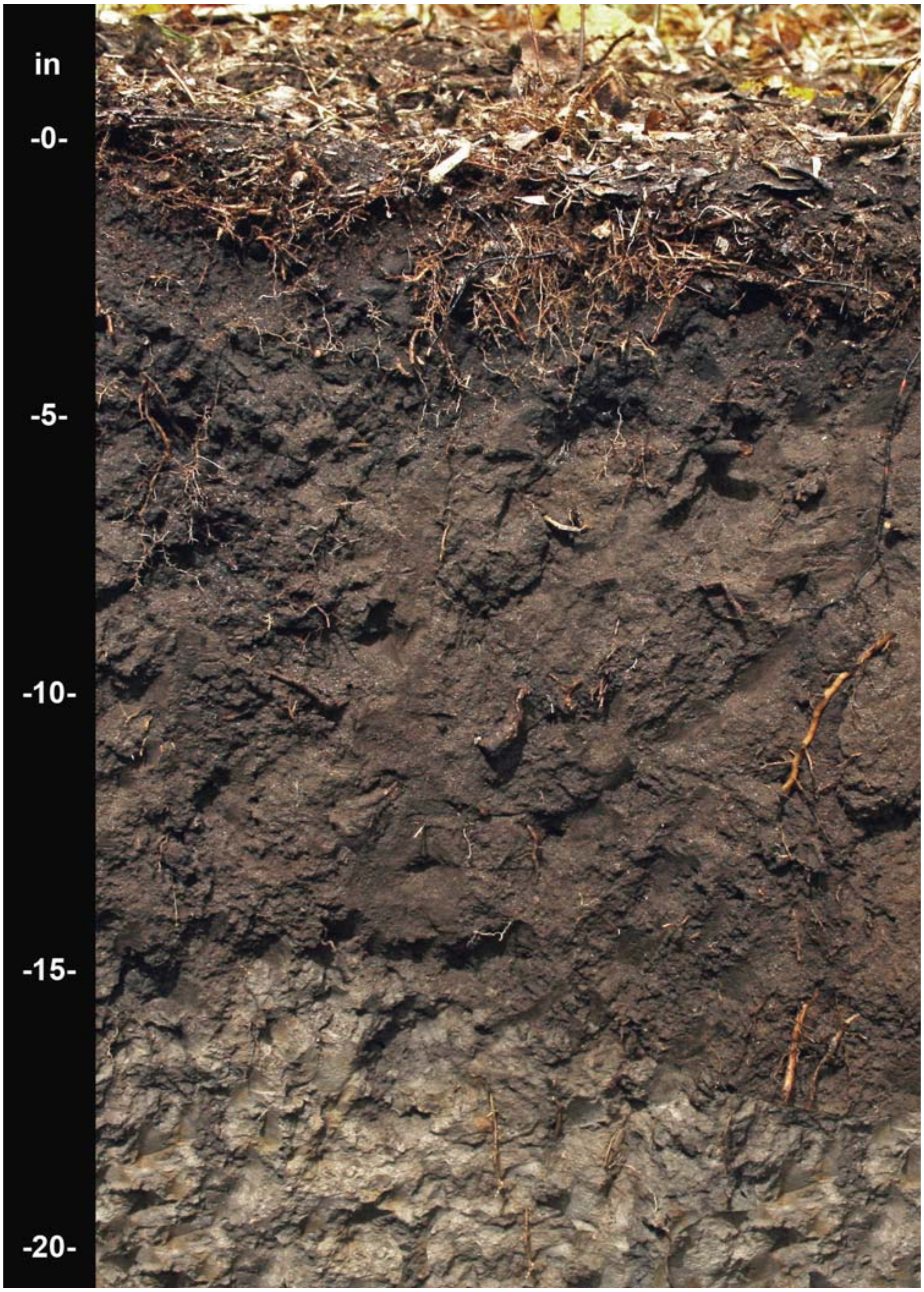

Figure 8.—A profile of a Deloss soil.

Btg—15 to 39 inches; gray (10YR 5/1) sandy clay loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; few medium roots; common fine pores; common medium faint very dark grayish brown (10YR 3/2) and pale brown (10YR 6/3) masses of oxidized iron; very strongly acid; gradual wavy boundary.

BCg—39 to 45 inches; gray (10YR 6/1) sandy clay loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine pores; common medium distinct strong brown (7.5YR 5/6) masses of oxidized iron; very strongly acid; gradual wavy boundary.

Cg—45 to 80 inches; gray (5Y 6/1) fine sandy loam; massive; very friable; common medium distinct brownish yellow (10YR 6/6) masses of oxidized iron; very strongly acid.

Range in Characteristics

Solum thickness: 40 to 60 inches
Depth to seasonal high water table: 0 to 1.0 foot
Reaction: Very strongly acid to slightly acid in the A horizon, very strongly acid or strongly acid in the upper part of the B horizon and very strongly acid to slightly acid in the lower part, and extremely acid to neutral in the C horizon

A or Ap horizon:
Color—neutral in hue or hue of 10YR to 5Y; value of 2 or 3 and chroma of 1 or 2
Texture—loam, fine sandy loam, sandy loam, loamy sand, or loamy fine sand or their mucky analogues

Eg horizon (where present):
Color—neutral in hue or hue of 10YR to 5Y; value of 4 to 7 and chroma of 1 or 2
Texture—loam, fine sandy loam, sandy loam, loamy sand, or loamy fine sand

BA or BEg horizon (where present):
Color—neutral in hue or hue of 10YR or 2.5Y; value of 2 to 6 and chroma of 1 or 2
Texture—sandy clay loam, loam, or fine sandy loam

Btg horizon:
Color—neutral in hue or hue of 10YR to 5Y; value of 2 to 7 and chroma of 1 or 2
Texture—sandy clay loam, clay loam, or fine sandy loam; thin horizons of sandy clay in some pedons
Redoximorphic features—iron depletions in shades of olive and gray and masses of oxidized iron in shades of brown, red, and yellow

BCg horizon:
Color—neutral in hue or hue of 10YR to 5Y; value of 4 to 7 and chroma of 1 or 2
Texture—fine sandy loam, sandy loam, sandy clay loam, or sandy clay
Redoximorphic features—iron depletions in shades of olive and gray and masses of oxidized iron in shades of brown, red, and yellow

Cg horizon:
Color—neutral in hue or hue of 10YR to 5Y, 5GY, or 5G; value of 4 to 7 and chroma of 1 or 2
Texture—variable, ranging from sand to clay
Redoximorphic features—iron depletions in shades of olive and gray and masses of oxidized iron in shades of brown, red, and yellow

Dorovan Series

Physiographic province: Lower Coastal Plain
Landform: Flood plains
Parent material: Highly decomposed organic matter
Drainage class: Very poorly drained
Slowest saturated hydraulic conductivity: Moderately high or high
Depth class: Very deep
Slope range: 0 to 2 percent

Associated Soils

- Belhaven soils, which have organic surface layers 16 to 51 inches thick and are in nonflooding, similar landscape positions
- Chowan soils, which have a surface mineral horizon ranging from 16 to 40 inches thick and are in similar landscape positions

Taxonomic Classification

Dysic, thermic Typic Haplosaprists

Typical Pedon

A Dorovan soil in an area of Dorovan muck, 0 to 1 percent slopes, frequently flooded; in Hyde County, NC; 7.5-minute USGS topographic quadrangle, Ponzer, NC; lat. 35 degrees 34 minutes 16 seconds N. and long. 76 degrees 26 minutes 25 seconds W.; elevation, 0 feet.

Oa1—0 to 5 inches; very dark brown (10YR 2/2, broken face and rubbed) muck; about 15 percent fiber unrubbed, less than 5 percent fiber rubbed; weak medium subangular blocky structure; very friable, slightly sticky; moderately fluid; common fine roots; strong sulfur odor; extremely acid; gradual smooth boundary.

Oa2—5 to 70 inches; dark reddish brown (5YR 2.5/2, open face) and very dark brown (10YR 2/2, rubbed) muck; about 15 percent fiber unrubbed, less than 2 percent fiber rubbed; massive; friable, slightly sticky; very fluid; common fine and medium roots; strong sulfur odor; extremely acid.

Range in Characteristics

Thickness of organic layer: 51 to more than 80 inches
Depth to seasonal high water table: 0 to 0.5 foot
Reaction: Extremely acid to very strongly acid in the organic horizons, except where lime has been applied, and very strongly acid or strongly acid in the underlying mineral horizons

Oe horizon (where present):
Color—neutral in hue or hue of 7.5YR or 10YR; value of 2 to 4 and chroma of 1 to 3
Texture—sapric material (muck); 40 to 90 percent fiber unrubbed and 20 to 60 percent fiber rubbed

Oa horizon:
Color—neutral in hue or hue of 10YR or 2.5Y; value of 2 or 3 and chroma of 1 to 3
Texture—sapric material (muck); 10 to 40 percent fiber unrubbed and less than 1/6 of volume fiber rubbed; remaining fiber after rubbing dominantly woody; logs and large fragments of wood in lower part of the organic layers

C horizon (where present):
Color—neutral in hue or hue of 10YR to 5Y; value of 2 to 5 and chroma of 1 or 2
Texture—sand, fine sand, loamy sand, sandy loam, fine sandy loam, or clay or their mucky analogues

Dragston Series

Physiographic province: Lower Coastal Plain
Landform: Marine terraces and stream terraces
Parent material: Loamy marine or fluvial sediments
Drainage class: Somewhat poorly drained

Slowest saturated hydraulic conductivity: High
Depth class: Very deep
Slope range: 0 to 2 percent

Associated Soils

- Bertie soils, which have a fine-loamy subsoil and are in similar landscape positions
- Gertie soils, which have a clayey subsoil, are poorly drained, and are on flats or in depressions
- Munden soils, which are moderately well drained and in the slightly higher landscape positions
- Nimmo soils, which are poorly drained and are in slight depressions
- Tomotley soils, which are poorly drained, have a fine-loamy subsoil, and are on flats and in depressions

Taxonomic Classification

Coarse-loamy, mixed, semiactive, thermic Aeric Endoaquults

Typical Pedon

A Dragston soil in an area of Dragston fine sandy loam; in Beaufort County, NC; 7.5-minute USGS topographic quadrangle, Ransomville, NC; lat. 35 degrees 29 minutes 50 seconds N. and long. 76 degrees 37 minutes 39 seconds W.; elevation, 3 feet.

Ap—0 to 6 inches; dark grayish brown (10Y 4/2) fine sandy loam; weak fine granular structure; very friable; many fine roots; moderately acid; abrupt smooth boundary.

E—6 to 10 inches; light yellowish brown (2.5Y 6/4) fine sandy loam; weak fine granular structure; very friable; few medium distinct light brownish gray (10YR 6/2) iron depletions; very strongly acid; abrupt smooth boundary.

Bt—10 to 16 inches; light yellowish brown (2.5Y 6/4) sandy loam; weak medium subangular blocky structure; friable; some clay bridges between sand grains; few fine distinct light brownish gray (10YR 6/2) iron depletions; strongly acid; clear smooth boundary.

Btg—16 to 42 inches; light brownish gray (2.5Y 6/2) sandy loam; weak medium subangular blocky structure; friable; few faint clay films on faces of peds; some clay bridges between sand grains; common medium distinct olive yellow (2.5Y 6/6) masses of oxidized iron; strongly acid; clear smooth boundary.

2Cg—42 to 60 inches; light gray (10YR 7/1) loamy sand; single grain; loose; few fine flakes of mica; few pockets of sandy loam; common medium distinct light yellowish brown (2.5Y 6/4) masses of oxidized iron; moderately acid.

Range in Characteristics

Solum thickness: 25 to 50 inches
Depth to seasonal high water table: 1.0 to 2.5 feet
Reaction: Very strongly acid or strongly acid, except where lime has been applied

Ap horizon:
Color—hue of 10YR to 5Y, value of 2 to 5, and chroma of 1 to 4; less than 10 inches thick where value less than 3
Texture—loamy sand, loamy fine sand, sandy loam, fine sandy loam, or loam

E horizon (where present):
Color—hue of 10YR to 5Y, value of 4 to 7, and chroma of 1 to 4
Texture—loamy sand, loamy fine sand, sandy loam, fine sandy loam, or loam
Redoximorphic features—iron depletions in shades of brown and gray and masses of oxidized iron in shades of brown, yellow, and red

BA or BE horizon (where present):
Color—hue of 10YR to 5Y, value of 4 to 6, and chroma of 3 to 8
Texture—sandy loam, fine sandy loam, or loam
Redoximorphic features—iron depletions in shades of brown and gray and masses of oxidized iron in shades of brown, yellow, and red

Bt horizon:
Color—hue of 10YR to 5Y, value of 4 to 6, and chroma of 3 to 8
Texture—sandy loam, fine sandy loam, or loam; thin layers of sandy clay loam in some pedons
Redoximorphic features—iron depletions in shades of brown and gray and masses of oxidized iron in shades of brown, yellow, and red

Btg horizon:
Color—neutral in hue or hue of 10YR to 5Y; value of 4 to 6 and chroma of 1 or 2
Texture—sandy loam, fine sandy loam, or loam; thin layers of sandy clay loam in some pedons
Redoximorphic features—iron depletions in shades of brown and gray and masses of oxidized iron in shades of brown, yellow, and red

BC or CB horizon (where present):
Color—hue of 10YR to 5Y, value of 4 to 6, and chroma of 3 to 8
Texture—loamy sand, loamy fine sand, sandy loam, or fine sandy loam
Redoximorphic features—iron depletions in shades of brown and gray and masses of oxidized iron in shades of brown, yellow, and red

BCg or CBg horizon (where present):
Color—neutral in hue or hue of 10YR to 5Y; value of 4 to 6 and chroma of 1 or 2
Texture—sandy loam, fine sandy loam, or loam; thin layers of sandy clay loam in some pedons
Redoximorphic features—iron depletions in shades of brown and gray and masses of oxidized iron in shades of brown, yellow, and red

C horizon:
Color—neutral in hue or hue of 10YR to 5Y; value of 4 to 7 and chroma of 3 to 8; value of 5 to 7 if neutral
Texture—sand, fine sand, loamy sand, loamy fine sand, sandy loam, or fine sandy loam; commonly stratified with these textures
Redoximorphic features—iron or clay depletions in shades of gray and brownish gray and masses of oxidized iron in shades of yellow, brown, yellowish red, and olive brown

Cg horizon (where present):
Color—neutral in hue or hue of 10YR to 5BG; value of 4 to 7 and chroma of 1 or 2; value of 5 to 7 if neutral
Texture—sand, fine sand, loamy sand, loamy fine sand, sandy loam, or fine sandy loam; commonly stratified with these textures
Redoximorphic features—masses of oxidized iron in shades of yellow, brown, yellowish red, and olive brown

Gertie Series

Physiographic province: Lower Coastal Plain
Landform: Marine terraces and stream terraces
Parent material: Clayey marine and fluvial sediments

Drainage class: Poorly drained
Slowest saturated hydraulic conductivity: Moderately low or low
Depth class: Very deep
Slope range: 0 to 2 percent

Associated Soils

- Dogue soils, which are moderately well drained and are in the higher landscape positions
- Hyde soils, which are very poorly drained, have more silt in the subsoil, and are in similar landscape positions
- Pasquotank soils, which have less clay in the subsoil and are in similar landscape positions
- Perquimans soils, which have less clay in the subsoil and are in similar landscape positions
- Portsmouth soils, which have less clay in the subsoil, are very poorly drained, and are in similar landscape positions
- Tomotley soils, which have a fine-loamy subsoil and are in similar landscape positions

Taxonomic Classification

Fine, mixed, semiactive, thermic Typic Endoaquults

Typical Pedon

A Gertie soil in an area of Gertie silt loam, 0 to 1 percent slopes; in the City of Chesapeake, VA; 7.5-minute USGS topographic quadrangle, Deep Creek, VA; lat. 36 degrees 39 minutes 30 seconds N. and long. 76 degrees 20 minutes 08 seconds W.; elevation, 13 feet.

Ap—0 to 4 inches; very dark brown (10YR 2/2) silt loam; moderate medium granular structure; friable, slightly sticky, slightly plastic; strongly acid; abrupt smooth boundary.

E—4 to 9 inches; brown (10YR 5/3) silt loam; moderate fine granular structure; friable, slightly sticky; strongly acid; clear smooth boundary.

Btg1—9 to 16 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate medium subangular blocky structure; firm, slightly sticky, very plastic; few distinct clay films on faces of peds; many fine strong brown (7.5YR 5/8) masses of oxidized iron; very strongly acid; clear smooth boundary.

Btg2—16 to 27 inches; dark gray (2.5Y 4/1) silty clay; strong coarse subangular blocky structure; firm, slightly sticky, very plastic; few distinct clay films on faces of peds; common medium prominent strong brown (7.5YR 5/8) masses of oxidized iron; very strongly acid; clear smooth boundary.

Btg3—27 to 41 inches; gray (2.5Y 5/1) silty clay loam; moderate medium subangular blocky structure; firm, slightly sticky, very plastic; few medium prominent strong brown (7.5YR 5/8) and many medium prominent yellowish brown (10YR 5/8) masses of oxidized iron; few distinct clay films on faces of peds; very strongly acid; clear smooth boundary.

2C—41 to 64 inches; light yellowish brown (2.5Y 6/4) loamy sand; loose; single grain; common medium prominent light brownish gray (2.5Y 6/2) iron depletions and few fine prominent strong brown (7.5YR 5/8) masses of oxidized iron; very strongly acid; clear wavy boundary.

2Cg—64 to 72 inches; light brownish gray (2.5Y 6/2) loamy sand; loose; single grain; many coarse prominent yellowish brown (10YR 5/6) masses of oxidized iron; very strongly acid.

Range in Characteristics

Solum thickness: 40 to 60 inches
Depth to seasonal high water table: 0 to 1.0 foot
Reaction: Extremely acid to strongly acid, except where lime has been applied

A or Ap horizon:
Color—hue of 10YR to 5Y, value of 2 to 6, and chroma of 1 or 2; less than 6 inches thick where value is 2 or 3
Texture—fine sandy loam, sandy loam, loam, silt loam, clay loam, or silty clay loam

E horizon:
Color—neutral in hue or hue of 10YR to 5Y; value of 4 to 7 and chroma of 1 or 2; value of 3 or 4 if neutral
Texture—fine sandy loam, sandy loam, loam, silt loam, clay loam, or silty clay loam

BA or BE horizon (where present):
Color—hue of 10YR to 5Y, value of 4 to 7, and chroma of 1 or 2
Texture—loam, silt loam, clay loam, or silty clay loam
Redoximorphic features—iron depletions in shades of olive and gray and masses of oxidized iron in shades of brown, yellow, and red

Btg horizon:
Color—hue of 10YR to 5Y, value of 4 to 7, and chroma of 1 or 2
Texture—clay loam, silty clay loam, silty clay, or clay
Redoximorphic features—iron depletions in shades of olive and gray and masses of oxidized iron in shades of brown, yellow, and red

BCg or CBg horizon (where present):
Color—hue of 10YR to 5Y, value of 4 to 7, and chroma of 1 or 2
Texture—clay loam, silty clay loam, sandy clay loam, sandy clay, or clay; pockets or strata of coarser textures in some pedons
Redoximorphic features—iron depletions in shades of olive and gray and masses of oxidized iron in shades of brown, yellow, and red

C or 2C horizon:
Color—hue of 10YR to 5Y, value of 4 to 7, and chroma of 3 to 8
Texture (fine-earth fraction)—variable, ranging from sand to clay
Redoximorphic features—iron depletions in shades of gray and masses of oxidized iron in shades of brown and yellow

Cg or 2Cg horizon:
Color—neutral in hue or hue of 10YR to 5Y; value of 4 to 7 and chroma of 1 or 2
Texture (fine-earth fraction)—variable, ranging from sand to clay
Redoximorphic features—iron depletions in shades of gray and masses of oxidized iron in shades of brown and yellow

Hyde Series

Physiographic province: Lower Coastal Plain
Landform: Marine terraces and pocosins
Parent material: Loamy marine sediments
Drainage class: Very poorly drained
Slowest saturated hydraulic conductivity: Moderately high

Depth class: Very deep
Slope range: 0 to 2 percent

Associated Soils

- Belhaven soils, which have an organic surface layer 16 to 51 inches thick and are in similar landscape positions
- Cape Lookout soils, which have a clayey subsoil and are in similar landscape positions
- Gertie soils, which are poorly drained, have a clayey subsoil, and are in similar landscape positions
- Perquimans soils, which have a fine-silty subsoil and are in similar landscape positions
- Pettigrew soils, which have an organic surface layer 8 to 16 inches thick, have a clayey subsoil, and are in similar landscape positions
- Portsmouth soils, which have a fine-loamy subsoil and are in similar landscape positions
- Roper soils, which have an organic surface layer 8 to 16 inches thick, have a fine-silty subsoil, and are in similar landscape positions
- Wasda soils, which have an organic surface layer 8 to 16 inches thick, have a fine-loamy subsoil, and are in similar landscape positions

Taxonomic Classification

Fine-silty, mixed, active, thermic Typic Umbraquults (fig. 9)

Typical Pedon

A Hyde soil in an area of Hyde mucky silt loam, 0 to 2 percent slopes; in Pasquotank County, NC; 7.5-minute USGS topographic quadrangle, Pasquotank, NC; lat. 36 degrees 17 minutes 08 seconds N. and long. 76 degrees 18 minutes 07 seconds W.; elevation, 10 feet.

Ap—0 to 7 inches; black (10YR 2/1) mucky silt loam; moderate fine granular structure; very friable, slightly sticky; few very fine and fine roots; few fine flakes of mica; extremely acid; abrupt smooth boundary.

A—7 to 13 inches; very dark grayish brown (10YR 3/2) silt loam; moderate fine granular structure; very friable, slightly sticky; few very fine roots; few fine flakes of mica; extremely acid; clear smooth boundary.

Eg—13 to 18 inches; light brownish gray (2.5Y 6/2) silt loam; moderate medium subangular blocky structure; very friable, slightly sticky; common fine prominent yellowish brown (10YR 5/8) masses of oxidized iron; few fine flakes of mica; extremely acid; clear smooth boundary.

Btg1—18 to 29 inches; light brownish gray (2.5Y 6/2) silt loam; moderate medium subangular blocky structure; friable, slightly sticky, moderately plastic; few fine roots; common fine and medium distinct light gray (2.5Y 7/1) iron depletions and common fine prominent yellowish brown (10YR 5/8) masses of oxidized iron; few fine flakes of mica; extremely acid; clear smooth boundary.

Btg2—29 to 36 inches; light brownish gray (2.5Y 6/2) silt loam; weak fine subangular blocky structure; very friable, slightly sticky, slightly plastic; common fine prominent yellowish brown (10YR 5/8) masses of oxidized iron; common fine flakes of mica; extremely acid; clear smooth boundary.

Btg3—36 to 47 inches; grayish brown (2.5Y 5/2) silt loam and silty clay loam; weak medium subangular blocky structure (silty clay loam—firm; silt loam—friable); common fine and medium prominent strong brown (7.5YR 4/6) masses of oxidized iron; common fine flakes of mica; extremely acid; clear smooth boundary.

Figure 9.—A profile of a Hyde soil.

BCg—47 to 51 inches; grayish brown (2.5Y 5/2) clay loam that has pockets of sand; weak medium subangular blocky structure; friable, moderately sticky, moderately plastic; common coarse prominent yellowish brown (10YR 5/8) and common medium prominent strong brown (7.5YR 4/6) masses of oxidized iron; common fine flakes of mica; extremely acid; gradual smooth boundary.

Cg—51 to 60 inches; light olive gray (5Y 6/2), light greenish gray (5GY 7/1), and light yellowish brown (2.5Y 6/4) sandy loam; massive; very friable; common medium prominent yellowish brown (10YR 5/8) masses of oxidized iron; common fine flakes of mica; extremely acid.

Range in Characteristics

Solum thickness: 30 to 60 inches
Depth to seasonal high water table: 0 to 1.0 foot
Reaction: Extremely acid to strongly acid in the A and B horizons, except where lime has been applied, and extremely acid to neutral in the C horizon

A horizon:
Color—neutral in hue or hue of 10YR to 5Y; value of 2 to 3 and chroma of 1 or 2
Texture—loam, very fine sandy loam, or silt loam or their mucky analogues

Eg horizon:
Color—neutral in hue or hue of 10YR to 5Y; value of 4 to 7 and chroma of 1 or 2
Texture—silt loam or loam
Redoximorphic features—iron depletions in shades of brown, olive, and gray and masses of oxidized iron in shades of brown, red, and yellow

Btg horizon:
Color—neutral in hue or hue of 10YR to 5Y, 5GY, or 5BG; value of 4 to 7 and chroma of 1 or 2
Texture—clay loam, silty clay loam, silt loam, or loam; clay films not evident in Btg horizon by field examination in some pedons
Redoximorphic features—iron depletions in shades of brown, olive, and gray and masses of oxidized iron in shades of brown, red, and yellow

BCg horizon:
Color—neutral in hue or hue of 10YR to 5Y, 5GY, or 5BG; value of 4 to 7 and chroma of 1 or 2
Texture—ranges from clay loam to sandy loam
Redoximorphic features—iron depletions in shades of brown, olive, and gray and masses of oxidized iron in shades of brown, red, and yellow

Cg horizon:
Color—neutral in hue or hue of 10YR to 5Y, 5GY, or 5BG; value of 4 to 7 and chroma of 1 or 2
Texture—stratified sand, loamy sand, sandy loam, fine sandy loam, sandy clay loam, loam, silty clay, or clay loam
Redoximorphic features—iron depletions in shades of brown, olive, and gray and masses of oxidized iron in shades of brown, red, and yellow

Munden Series

Physiographic province: Lower Coastal Plain
Landform: Marine terraces and stream terraces
Parent material: Loamy and sandy marine and fluvial sediments
Drainage class: Moderately well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 0 to 2 percent

Associated Soils

- Bojac soils, which are well drained and are in similar landscape positions
- Bertie soils, which are somewhat poorly drained and are in depressions
- Dragston soils, which are somewhat poorly drained and are in depressions

- Nimmo soils, which are poorly drained and are in depressions
- Seabrook soils, which are sandy toout and are in the slightly higher positions
- Tetotum soils, which have a fine-loamy subsoil and are in similar landscape positions
- Tomotley soils, which are poorly drained, have a fine-loamy subsoil, and are in depressions

Taxonomic Classification

Coarse-loamy, mixed, semiactive, thermic Aquic Hapludults

Typical Pedon

A Munden soil in an area of Munden fine sandy loam; in the City of Virginia Beach, VA; 7.5-minute USGS topographic quadrangle, Pleasant Ridge, VA; lat. 36 degrees 44 minutes 30 seconds N. and long. 76 degrees 04 minutes 48 seconds W.; elevation, 13 feet.

Ap—0 to 8 inches; dark grayish brown (10YR 4/2) fine sandy loam; weak fine granular structure; very friable; common fine roots; slightly acid; abrupt smooth boundary.

Bt1—8 to 15 inches; yellowish brown (10YR 5/6) sandy loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; few faint clay films on faces of peds; many sand grains coated and bridged with clay; strongly acid; clear smooth boundary.

Bt2—15 to 25 inches; yellowish brown (10YR 5/6) loam; moderate medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; common distinct clay films on faces of peds; many sand grains coated and bridged with clay; common medium faint light brown (7.5YR 6/4) soft masses of oxidized iron; very strongly acid; clear smooth boundary.

Bt3—25 to 32 inches; brown (10YR 5/3) and yellowish brown (10YR 5/8) sandy loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; common fine distinct light brownish gray (10YR 6/2) iron depletions; few faint clay films on faces of peds; many sand grains coated and bridged with clay; few small pockets of sand up to 1.5 inches in diameter; very strongly acid; clear smooth boundary.

C—32 to 62 inches; yellowish brown (10YR 5/8), light brownish gray (10YR 6/2), and yellowish red (5YR 5/6) sand; single grain; loose; many stained sand grains; strongly acid.

Range in Characteristics

Solum thickness: 25 to more than 50 inches
Depth to seasonal high water table: 1.5 to 2.5 feet
Reaction: Very strongly acid to moderately acid, except where lime has been applied

A or Ap horizon:
Color—hue of 10YR or 2.5Y, value of 3 to 5, and chroma of 1 to 4
Texture—loamy sand, loamy fine sand, sandy loam, fine sandy loam, or loam

E horizon (where present):
Color—hue of 10YR to 5Y, value of 5 to 7, and chroma of 2 to 6
Texture—loamy sand, loamy fine sand, sandy loam, fine sandy loam, or loam

BA or BE horizon (where present):
Color—hue of 10YR to 5Y, value of 5 or 6, and chroma of 3 to 6
Texture—sandy loam, fine sandy loam, or loam

Bt horizon (upper part):
Color—hue of 7.5YR to 2.5Y, value of 3 to 6, and chroma of 4 to 8
Texture—sandy loam, fine sandy loam, or loam; ranges to sandy clay loam in some subhorizons

Redoximorphic features—iron depletions in shades of brown, olive, and gray and masses of oxidized iron in shades of brown, red, and yellow

Bt horizon (lower part):

Color—hue of 7.5YR to 2.5Y, value of 3 to 6, and chroma of 3 to 8; or variegated in these and other hues without dominant matrix color

Texture—sandy loam, fine sandy loam, or loam; ranges to sandy clay loam in some subhorizons

Redoximorphic features—iron depletions in shades of brown, olive, and gray and masses of oxidized iron in shades of brown, red, and yellow

Btg horizon (where present):

Color—neutral in hue or hue of 7.5YR to 2.5Y; value of 3 to 6 and chroma of 1 or 2; or variegated in these and other hues without dominant matrix color

Texture—sandy loam, fine sandy loam, or loam; ranges to sandy clay loam in some subhorizons

Redoximorphic features—iron depletions in shades of brown, olive, and gray and masses of oxidized iron in shades of brown, red, and yellow

BC or CB horizon (where present):

Color—hue of 7.5YR to 2.5Y, value of 3 to 6, and chroma of 3 to 8; or variegated in these and other hues without dominant matrix color

Texture—loamy sand, sandy loam, fine sandy loam, or loam

Redoximorphic features—iron depletions in shades of brown, olive, and gray and masses of oxidized iron in shades of brown, yellow, and red

BCg or CBg horizon (where present):

Color—neutral in hue or hue of 7.5YR to 2.5Y; value of 3 to 6 and chroma of 1 or 2; or variegated in these and other hues without dominant matrix color

Texture—loamy sand, sandy loam, fine sandy loam, or loam

Redoximorphic features—iron depletions in shades of brown, olive, and gray and masses of oxidized iron in shades of brown, yellow, and red

C horizon:

Color—hue of 7.5YR to 5Y, value of 5 to 7, and chroma of 3 to 8; or variegated in these and other hues without dominant matrix color

Texture—sand, fine sand, loamy sand, loamy fine sand, sandy loam, or fine sandy loam; thin strata ranging from sandy clay loam to silty clay in some pedons

Redoximorphic features—iron depletions in shades of brown, olive, and gray and masses of oxidized iron in shades of brown, yellow, and red

Cg horizon (where present):

Color—neutral in hue or hue of 7.5YR to 5Y; value of 5 to 7 and chroma of 1 or 2; or variegated in these and other hues without dominant matrix color

Texture—sand, fine sand, loamy sand, loamy fine sand, sandy loam, or fine sandy loam; thin strata ranging from sandy clay loam to silty clay in some pedons

Redoximorphic features—iron depletions in shades of brown, olive, and gray and masses of oxidized iron in shades of brown, yellow, and red

Nimmo Series

Physiographic province: Lower Coastal Plain
Landform: Marine terraces
Parent material: Loamy and sandy marine and fluvial sediments

Drainage class: Poorly drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 0 to 2 percent

Associated Soils

- Bertie soils, which are somewhat poorly drained and are in similar landscape positions
- Bojac soils, which are well drained and are in the higher landscape positions
- Dragston soils, which are somewhat poorly drained and are in similar landscape positions
- Munden soils, which are moderately well drained and are in the higher landscape positions
- Tetotum soils, which have a fine-loamy subsoil and are in the higher landscape positions
- Tomotley soils, which have fine-loamy subsoil and are in similar landscape positions

Taxonomic Classification

Coarse-loamy, mixed, semiactive, thermic Typic Endoaquults

Typical Pedon

A Nimmo soil in an area of Nimmo loamy fine sand; in Chowan County, NC; 7.5-minute USGS topographic quadrangle, Center Hill, NC; lat. 36 degrees 07 minutes 50 seconds N. and long. 76 degrees 37 minutes 07 seconds W.; elevation, 13 feet.

Ap—0 to 6 inches; dark grayish brown (10YR 4/2) loamy fine sand; weak fine granular structure; very friable; few fine and medium roots; very strongly acid; clear smooth boundary.

Btg1—6 to 18 inches; light brownish gray (10YR 6/2) fine sandy loam; weak fine subangular blocky structure; friable; few faint clay films on faces of peds; common medium distinct light yellowish brown (2.5Y 6/4) masses of oxidized iron; very strongly acid; clear smooth boundary.

Btg2—18 to 25 inches; light brownish gray (10YR 6/2) fine sandy loam; weak fine subangular blocky structure; friable; many sand grains coated and bridged with clay; strongly acid; gradual smooth boundary.

Cg1—25 to 36 inches; light gray (10YR 7/1) sand; single grain; loose; common medium distinct brownish yellow (10YR 6/8) and common fine distinct strong brown (7.5YR 5/8) masses of oxidized iron; common dark opaque minerals; strongly acid; gradual smooth boundary.

Cg2—36 to 48 inches; mottled white (10YR 8/1), brownish yellow (10YR6/8), and strong brown (7.5YR 5/8) sand that has pockets of sandy loam; single grain; loose; common dark opaque minerals; strongly acid; clear smooth boundary.

Cg3—48 to 54 inches; bluish gray (5B 5/1) sandy loam; massive; very friable; slightly acid; clear smooth boundary.

Cg4—54 to 60 inches; gray (N 5/) sand; single grain; loose; slightly acid.

Range in Characteristics

Solum thickness: 25 to 45 inches
Depth to seasonal high water table: 0 to 1.0 foot
Reaction: Extremely acid to strongly acid, except where lime has been applied

A or Ap horizon:

Color—neutral in hue or hue of 10YR to 5Y; value of 2 to 5 and chroma of 1 or 2; horizon less than 6 inches thick where value 2 or 3

Texture—loamy sand, loamy fine sand, sandy loam, fine sandy loam, or loam

E horizon (where present):
Color—neutral in hue or hue of 10YR to 5Y; value of 4 to 7 and chroma of 1 or 2
Texture—loamy sand, loamy fine sand, sandy loam, fine sandy loam, or loam

BE horizon (where present):
Color—neutral in hue or hue of 10YR to 5Y; value of 4 to 7 and chroma of 1 or 2
Texture—loamy sand, loamy fine sand, sandy loam, fine sandy loam, or loam

Btg horizon:
Color—neutral in hue or hue of 10YR to 5Y; value of 4 to 7 and chroma of 1 or 2, dominantly 1
Texture—loam, fine sandy loam, or sandy loam; thin layers of silt loam or sandy clay loam in some pedons
Redoximorphic features—iron depletions in shades of brown, olive, and gray and masses of oxidized iron in shades of brown, red, and yellow

2C or C horizon (where present):
Color—hue of 7.5YR to 5Y, value of 3 to 8, and chroma of 3 to 8
Texture (fine-earth fraction)—coarse sand, sand, loamy sand, loamy fine sand, or fine sand; strata or layers of finer textures in some pedons
Redoximorphic features—iron depletions in shades of brown, olive, and gray and masses of oxidized iron in shades of brown, red, and yellow

2Cg or Cg horizon:
Color—neutral in hue or hue of 7.5YR to 2.5Y; value of 3 to 8 and chroma of 1 or 2
Texture—sand, fine sand, loamy sand, loamy fine sand, sandy loam, or fine sandy loam; thin strata ranging from sandy clay loam to silty clay in some pedons
Redoximorphic features—iron depletions in shades of brown, olive, and gray and masses of oxidized iron in shades of brown, yellow, and red

Nixonton Series

Physiographic province: Lower Coastal Plain
Landform: Marine terraces
Parent material: Loamy and silty marine sediments
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 0 to 2 percent

Associated Soils

- Barclay soils, which are somewhat poorly drained and are in the slightly lower landscape positions
- Bertie soils, which are somewhat poorly drained and are in the slightly lower landscape positions
- Munden soils, which are well drained and are in similar landscape positions
- Tetotum soils, which are moderately well drained, have a fine-loamy subsoil, and are in similar landscape positions
- Yeopim soils, which are moderately well drained and are in similar landscape positions

Taxonomic Classification

Fine-silty, mixed, active, thermic Typic Hapludults

Typical Pedon

A Nixonton soil in an area of Nixonton-Yeopim complex, 0 to 2 percent slopes; in Pasquotank County, NC; 7.5-minute USGS topographic quadrangle, Weeksville, NC; lat. 36 degrees 13 minutes 28 seconds N. and long. 76 degrees 08 minutes 36 seconds W.; elevation, 7 feet.

Ap—0 to 6 inches; brown (10YR 4/3) loam; moderate fine granular structure; very friable; few very fine roots; few fine flakes of mica; moderately acid; clear smooth boundary.

A/Bt—6 to 9 inches; 60 percent brown (10YR 4/3) loam; weak fine subangular blocky structure (A material) and 40 percent dark yellowish brown (10YR 4/6) loam; weak medium subangular blocky structure (Bt material); friable, slightly sticky, slightly plastic; few very fine roots; few fine flakes of mica; slightly acid; clear smooth boundary.

Bt1—9 to 18 inches; dark yellowish brown (10YR 4/6) clay loam; moderate medium subangular blocky structure; friable, moderately sticky, moderately plastic; few very fine roots; few fine flakes of mica; moderately acid; clear smooth boundary.

Bt2—18 to 24 inches; yellowish brown (10YR 5/6) loam; weak medium subangular blocky structure; friable, slightly sticky, moderately plastic; few very fine roots; few fine flakes of mica; moderately acid; gradual smooth boundary.

BC—24 to 35 inches; light olive brown (2.5Y 5/6) loam; weak medium subangular blocky structure; friable; few fine flakes of mica; slightly acid; gradual smooth boundary.

CB—35 to 45 inches; light yellowish brown (2.5Y 6/4) loam; weak fine subangular blocky structure; friable; few fine flakes of mica; common medium and coarse light yellowish brown (2.5Y 6/3) iron depletions and common fine dark yellowish brown (10YR 4/6) masses of oxidized iron; slightly acid; clear wavy boundary.

C1—45 to 50 inches; light olive brown (2.5Y 5/4) loam; massive; friable; few fine flakes of mica; common fine, medium, and coarse light gray (2.5Y 7/1) iron depletions and common fine dark yellowish brown (10YR 4/6) soft masses of oxidized iron; evidence of marine stratification; slightly acid; gradual smooth boundary.

C2—50 to 60 inches; 40 percent light yellowish brown (2.5Y 6/4), 40 percent yellowish brown (10YR 5/6), and 30 percent light olive gray (5Y 6/2) sandy loam; massive; friable; few fine flakes of mica; common fine and medium yellowish brown (10YR 5/8) soft masses of oxidized iron; evidence of marine stratification; discontinuous strata of gray (5Y 6/1), common medium and coarse strong brown (7.5YR 5/6), and light yellowish brown (2.5Y 6/4) masses of oxidized iron; slightly acid.

Range in Characteristics

Solum thickness: 30 to 60 inches
Depth to seasonal high water table: 4.0 to 6.0 feet
Reaction: Strongly acid to slightly acid, except where lime has been applied

A or Ap horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 1 to 4
Texture—silt loam, very fine sandy loam, or loam

E horizon (where present):
Color—hue of 10YR or 2.5Y, value of 6 or 7, and chroma of 2 to 4
Texture—silt loam, very fine sandy loam, or loam

AB or A/B horizon (where present):
Color—hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 3 to 8
Texture—silt loam, very fine sandy loam, or loam

Bt horizon:
Color—hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 3 to 8
Texture—silty clay loam, clay loam, or loam

CB or BC horizon (where present):
Color—hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 3 to 8
Texture—loam, silt loam, or fine sandy loam

C or Cg horizon:
Color—hue of 10YR to 5Y, value of 4 to 7, and chroma of 1 to 8
Texture—loam, fine sandy loam, loamy fine sand, loamy sand, sand, or fine sand
Redoximorphic features—iron depletions in shades of brown, olive, and gray and masses of oxidized iron in shades of brown, yellow, and red

Pasquotank Series

Physiographic province: Lower Coastal Plain
Landform: Marine terraces
Parent material: Loamy marine sediments
Drainage class: Poorly drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 0 to 2 percent

Associated Soils

- Barclay soils, which are somewhat poorly drained and are in the slightly higher landscape positions
- Chapanoke soils, which are somewhat poorly drained and are in similar landscape positions
- Gertie soils, which have a clayey subsoil and are in similar landscape positions
- Perquimans soils, which have a fine-silty subsoil and are in similar landscape positions
- Tomotley soils, which have a fine-loamy subsoil and are in similar landscape positions
- Weeksville soils, which are very poorly drained and are in similar landscape positions

Taxonomic Classification

Coarse-silty, mixed, semiactive, thermic Typic Endoaquults

Typical Pedon

A Pasquotank soil in an area of Pasquotank silt loam, 0 to 2 percent slopes; in Pasquotank County, NC; 7.5-minute USGS topographic quadrangle, Weeksville, NC; lat. 36 degrees 11 minutes 11 seconds N. and long. 76 degrees 08 minutes 34 seconds W.; elevation, 3 feet.

Ap—0 to 6 inches; dark grayish brown (2.5Y 4/2) silt loam; weak fine granular structure and weak fine subangular blocky structure; very friable; common very fine and few fine roots; common fine flakes of mica; strongly acid; abrupt smooth boundary.

Btg1—6 to 18 inches; light brownish gray (2.5Y 6/2) loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; few very fine and fine roots; common fine and medium distinct light yellowish brown (10YR 6/4) masses of oxidized iron; common fine flakes of mica; very strongly acid; gradual smooth boundary.

Btg2—18 to 34 inches; gray (2.5Y 6/1) loam; weak medium subangular blocky structure; very friable; slightly sticky; few medium distinct olive yellow (2.5Y 6/6) and yellowish brown (10YR 5/4) masses of oxidized iron; common fine flakes of mica; very strongly acid; abrupt smooth boundary.

Btg3—34 to 39 inches; gray (2.5Y 6/1) loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; common medium distinct yellowish brown (10YR 5/4) and coarse distinct olive yellow (2.5Y 6/6) masses of oxidized iron; common fine flakes of mica; very strongly acid; gradual smooth boundary

BCg—39 to 44 inches; gray (2.5Y 6/1) loam; weak coarse subangular blocky structure; very friable; common medium distinct yellowish brown (10YR 5/4) and light yellowish brown (10YR 6/4) masses of oxidized iron; common fine flakes of mica; very strongly acid; gradual smooth boundary.

Cg—44 to 53 inches; gray (2.5Y 6/1) loam; massive; very friable; common medium distinct yellowish brown (10YR 5/4) and light yellowish brown (10YR 6/4) masses of oxidized iron; common fine flakes of mica; very strongly acid; clear smooth boundary.

C—53 to 60 inches; light olive brown (2.5Y 5/3) silt loam; massive; moderately sticky, moderately plastic; common medium prominent light gray (10YR 7/1) iron depletions and common medium distinct yellowish brown (10YR 5/4) masses of oxidized iron; common fine flakes of mica; strongly acid.

Range in Characteristics

Solum thickness: 30 to 60 inches
Depth to seasonal high water table: 0 to 1.0 foot
Reaction: Very strongly acid to moderately acid, except where lime has been applied

A or Ap horizon:
Color—hue of 10YR or 2.5Y, value of 3 to 6, and chroma of 1 or 2
Texture—silt loam, loam, or very fine sandy loam

Eg horizon (where present):
Color—hue of 10YR, value of 5 to 7, and chroma of 1 or 2
Texture—silt loam, loam, or very fine sandy loam
Redoximorphic features—iron or clay depletions in shades of gray and masses of oxidized iron in shades of brown and yellow

Btg horizon:
Color—hue of 10YR to 5Y, value of 5 to 7, and chroma of 1 or 2
Texture—silt loam, loam, or very fine sandy loam; thin subhorizons of silty clay loam or clay loam in some pedons
Redoximorphic features—iron or clay depletions in shades of gray and masses of oxidized iron in shades of brown and yellow

Cg horizon:
Color—hue of 10YR to 5Y, value of 5 to 7, and chroma of 1 or 2
Texture—variable, commonly loam, silt loam, very fine sandy loam, loamy very fine sand, fine sandy loam, or sand
Redoximorphic features—iron or clay depletions in shades of gray and masses of oxidized iron in shades of brown and yellow

C horizon (where present):
Color—hue of 10YR to 5Y, value of 5 to 7, and chroma of 3 to 5
Texture—variable, commonly loam, silt loam, very fine sandy loam, loamy very fine sand, fine sandy loam, or sand
Redoximorphic features—iron or clay depletions in shades of gray and masses of oxidized iron in shades of brown and yellow

Perquimans Series

Physiographic province: Lower Coastal Plain
Landform: Marine terraces
Parent material: Loamy marine sediments
Drainage class: Poorly drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 0 to 2 percent

Associated Soils

- Chapanoke soils, which are somewhat poorly drained and are in the slightly higher landscape positions
- Gertie soils, which have a clayey subsoil and are in similar landscape positions
- Hyde soils, which are very poorly drained and are in the slightly lower landscape positions
- Pasquotank soils, which have a coarse-silty subsoil and are in similar landscape positions
- Portsmouth soils, which are very poorly drained, have a fine-loamy subsoil, and are in depressions
- Tomotley soils, which have a fine-loamy subsoil and are in similar landscape positions
- Yeopim soils, which are moderately well drained and are in the slightly higher landscape positions

Taxonomic Classification:

Fine-silty, mixed, semiactive, thermic Typic Endoaquults

Typical Pedon

A Perquimans soil in an area of Perquimans silt loam, 0 to 2 percent slopes; in Perquimans County, NC; 7.5-minute USGS topographic quadrangle, Hertford, NC; lat. 36 degrees 09 minutes 51.35 seconds N. and long. 76 degrees 12 minutes 32.74 seconds W.; elevation, 7 feet.

Ap—0 to 5 inches; grayish brown (2.5Y 5/2) silt loam; weak medium granular structure; friable; few fine and medium roots; slightly acid; abrupt smooth boundary.

Eg—5 to 8 inches; light gray (2.5Y 7/2) silt loam; weak medium granular structure; friable; few fine and medium roots; slightly acid; abrupt smooth boundary.

Btg1—8 to 19 inches; gray (10YR 6/1) silty clay loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; few medium roots; common fine prominent brownish yellow (10YR 6/8) masses of oxidized iron; few faint clay films on faces of peds; moderately acid; clear smooth boundary.

Btg2—19 to 31 inches; grayish brown (2.5Y 5/2) clay loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; common coarse prominent brownish yellow (10YR 6/8) masses of oxidized iron; few faint clay films on faces of peds; strongly acid; clear smooth boundary.

Btg3—31 to 50 inches; gray (10YR 6/1) silty clay loam; weak medium subangular blocky structure; slightly sticky, slightly plastic; common medium faint light gray (2.5Y 7/2) iron depletions and many medium prominent brownish yellow (10YR 6/8) masses of oxidized iron; few faint clay films on faces of peds; strongly acid; clear smooth boundary.

Btg4—50 to 62 inches; light brownish gray (2.5Y 6/2) silt loam; weak medium subangular blocky structure; friable; common medium prominent strong brown (7.5YR 5/6) and olive yellow (2.5Y 6/6) masses of oxidized iron; strongly acid.

Range in Characteristics

Solum thickness: 30 to more than 60 inches
Depth to seasonal high water table: 0 to 1.0 foot
Reaction: Very strongly acid to slightly acid in the A and Eg horizons, except where lime has been applied, and very strongly acid to moderately acid in the lower horizons

A or Ap horizon:
Color—neutral in hue or hue of 10YR to 5Y; value of 2 to 6 and chroma of 1 or 2
Texture—silt loam, loam, or very fine sandy loam

Eg horizon:
Color—hue of 10YR to 5Y, value of 5 to 7, and chroma of 1 or 2
Texture—silt loam, loam, or very fine sandy loam
Redoximorphic features—masses of oxidized iron in shades of brown, yellow, and red

AB or BA horizon (where present):
Color—hue of 10YR to 5Y, value of 5 to 7, and chroma of 1 or 2
Texture—loam, silt loam, or very fine sandy loam
Redoximorphic features—iron depletions in shades of gray, olive, and brown and masses of oxidized iron in shades of yellow, brown, and red

Btg horizon:
Color—hue of 10YR to 5Y, value of 5 to 7, and chroma of 1 or 2
Texture—loam, silt loam, silty clay loam, or clay loam
Redoximorphic features—iron depletions in shades of gray, olive, and brown and masses of oxidized iron in shades of yellow, brown, and red

BCg or CBg horizon (where present):
Color—hue of 10YR to 5Y, value of 5 to 7, and chroma of 1 or 2
Texture—loam, silt loam, sandy loam, clay loam, or sandy clay loam
Redoximorphic features—iron depletions in shades of gray, olive, and brown and masses of oxidized iron in shades of yellow, brown, and red

Cg horizon:
Color—neutral in hue or hue of 10YR to 5Y; value of 5 to 8 and chroma of 1 or 2
Texture—sandy or loamy material; thin strata of clay in some pedons
Redoximorphic features—iron depletions in shades of gray, olive, and brown and masses of oxidized iron in shades of yellow, brown, and red

Pettigrew Series

Physiographic province: Lower Coastal Plain
Landform: Marine terraces and pocosins
Parent material: Clayey marine sediments
Drainage class: Very poorly drained
Slowest saturated hydraulic conductivity: Low to moderately low
Depth class: Very deep
Slope range: 0 to 2 percent

Associated Soils

- Cape Lookout soils, which have a thinner organic surface layer and are in similar landscape positions
- Conaby soils, which have a coarse-loamy subsoil and are in similar landscape positions

- Roper soils, which have a fine-silty subsoil and are in similar landscape positions
- Wasda soils, which have a fine-loamy subsoil and are in similar landscape positions

Taxonomic classification:

Fine, mixed, semiactive, nonacid, thermic Histic Humaquepts

Typical Pedon

A Pettigrew soil in an area of Pettigrew muck, 0 to 2 percent slopes; in Pasquotank County, NC; 7.5-minute USGS topographic quadrangle, Pasquotank, NC; lat. 36 degrees 19 minutes 27 seconds N. and long. 76 degrees 20 minutes 41 seconds W.; elevation, 10 feet.

Oap—0 to 6 inches; black (N 2.5/) muck; less than 1 percent fiber; moderate fine subangular blocky structure; very friable; few very fine and fine roots; very strongly acid; abrupt smooth boundary.

Oa—6 to 11 inches; black (7.5 YR 2.5/1) muck; 2 percent fiber unrubbed, less than 1 percent fiber rubbed; moderate medium subangular blocky structure; friable; few very fine and fine roots; extremely acid; clear smooth boundary.

A—11 to 16 inches; black (2.5Y 2.5/1) mucky loam; moderate medium subangular blocky structure; friable, moderately sticky, slightly plastic; common very fine roots; common fine flakes of mica; extremely acid; clear smooth boundary.

Bg1—16 to 30 inches; 75 percent gray (2.5Y 5/1) and 20 percent very dark gray (2.5Y 3/1) clay loam; weak coarse subangular blocky structure; firm, very sticky, very plastic; common very fine and medium roots; few fine and common medium prominent strong brown (7.5YR 5/6) masses of oxidized iron; common fine flakes of mica; extremely acid; gradual smooth boundary.

Bg2—30 to 37 inches; 25 percent light olive gray (5Y 6/2), 25 percent gray (5Y 6/1), and 25 percent very dark gray (2.5Y 3/1) clay; massive; firm, very sticky, very plastic; common very fine and medium roots; many coarse prominent strong brown (7.5YR 5/6) masses of oxidized iron; common fine flakes of mica; extremely acid; clear smooth boundary.

2Cg—37 to 60 inches; 50 percent grayish green (5G 5/2) and 45 percent gray (5Y 6/1) loam; massive; friable, slightly sticky, slightly plastic; common medium prominent yellowish brown (10YR 5/4) and strong brown (7.5YR 5/6) masses of oxidized iron in the upper part of the horizon; common fine flakes of mica; extremely acid.

Range in Characteristics

Thickness of organic layer: 8 to 16 inches
Solum thickness: 30 to 60 inches
Depth to seasonal high water table: 0 to 1.0 foot
Reaction: Extremely acid to strongly acid in the A and B horizons and moderately acid to mildly alkaline in the C horizon

Oa and Oap horizon:
Color—neutral in hue or hue of 5YR to 2.5Y; value of 2 or 3 and chroma of 1 or 2
Texture—muck

A horizon:
Color—neutral in hue or hue of 10YR to 5Y; value of 3 or 4 and chroma of 1 or 2
Texture—loam, clay loam, silty clay loam, or sandy clay loam or their mucky analogues

Bg horizon:
Color—neutral in hue or hue of 10YR to 5Y; value of 3 to 6 and chroma of 1 or 2
Texture—clay loam, clay, or silty clay

Redoximorphic features—masses of oxidized iron in shades of brown, yellow, and red

2Cg horizon:

Color—neutral in hue or hue of 10YR to 5G; value of 4 to 6 and chroma of 1 or 2
Texture—stratified sandy and loamy sediments
Redoximorphic features—masses of oxidized iron in shades of brown

Portsmouth Series

Physiographic province: Lower Coastal Plain
Landform: Marine terraces
Parent material: Loamy marine sediments
Drainage class: Very poorly drained
Slowest saturated hydraulic conductivity: High
Depth class: Very deep
Slope range: 0 to 2 percent

Associated Soils

- Cape Lookout soils, which are poorly drained, have a clayey subsoil, and are in similar landscape positions
- Conaby soils, which have an organic surface layer 8 to 16 inches thick, a coarse-loamy subsoil, and are in similar landscape positions
- Deloss soils, which do not have a sandy layer within 40 inches and are in similar landscape positions
- Gertie soils, which have a clayey subsoil and are in similar landscape positions
- Hyde soils, which have a fine-silty subsoil and are in similar landscape positions
- Tetotum soils, which are moderately well drained, have a fine-loamy subsoil, and are in the higher landscape positions
- Wasda soils, which have an organic surface layer 8 to 16 inches thick and are in similar landscape positions

Taxonomic Classification

Fine-loamy over sandy or sandy-skeletal, mixed, semiactive, thermic Typic Umbraquults

Typical Pedon

A Portsmouth soil in an area of Portsmouth fine sandy loam; in Washington County, NC; 7.5-minute USGS topographic quadrangle, Plymouth East, NC; lat. 35 degrees 51 minutes 51 seconds N. and long. 76 degrees 39 minutes 32 seconds W.; elevation, 13 feet.

Ap—0 to 12 inches; black (10YR 2/1) fine sandy loam; weak medium granular structure; very friable; many fine roots; moderately acid; gradual wavy boundary.

Eg—12 to 19 inches; gray (10YR 5/1) fine sandy loam; weak medium granular structure; very friable; few fine and medium roots; moderately acid; gradual wavy boundary.

BEg—19 to 23 inches; gray (10YR 5/1) and dark gray (10YR 4/1) fine sandy loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; common fine pores and old root channels; common medium prominent brownish yellow (10YR 6/8) and yellow (10YR 7/8) masses of oxidized iron; common medium flakes of mica; strongly acid; gradual wavy boundary.

Btg—23 to 35 inches; gray (10YR 5/1) and dark gray (10YR 4/1) sandy clay loam that has pockets and lenses of sandy clay and sandy loam; weak medium subangular blocky structure; friable, moderately sticky, moderately plastic; common fine pores and old root channels; common thin patchy clay films on faces of peds; common medium prominent yellowish brown (10YR 5/8), brownish yellow (10YR 6/8), and yellowish red (5YR 5/8) masses of oxidized iron; common medium flakes of mica; few medium grains of feldspar minerals; very strongly acid; clear wavy boundary.

BCg—35 to 38 inches; gray (10YR 5/1), brownish yellow (10YR 6/8), and reddish yellow (5YR 6/8) sandy loam; weak medium subangular blocky structure; very friable; common medium flakes of mica; few medium grains of feldspar minerals; very strongly acid; clear smooth boundary.

2Cg1—38 to 48 inches; gray (10YR 6/1) sand that has few small bodies of sandy clay loam; single grain; loose; common medium flakes of mica; few medium grains of feldspar minerals; very strongly acid; abrupt smooth boundary.

2Cg2—48 to 72 inches; gray (10YR 6/1) and light gray (10YR 7/1) coarse sand; single grain; loose; common medium flakes of mica; few small to large pebbles; strongly acid.

Range in Characteristics

Solum thickness: 20 to 40 inches
Depth to seasonal high water table: 0 to 1.0 foot
Reaction: Extremely acid to strongly acid in the A and B horizons, except where lime has been applied, and extremely acid to moderately acid in the C horizons

A or Ap horizon:
Color—neutral in hue or hue of 10YR; value of 2 or 3 and chroma of 1 to 3
Texture—sandy loam, fine sandy loam, or loam or their mucky analogues

Eg horizon:
Color—hue of 10YR or 5Y, value of 5 to 7, and chroma of 1 or 2
Texture—sandy loam, fine sandy loam, or loam

BEg horizon:
Color—neutral in hue or hue of 10YR to 5Y; value of 3 to 6 and chroma of 1 or 2
Texture—sandy loam, fine sandy loam, or loam

Btg horizon:
Color—neutral in hue or hue of 10YR to 5Y; value of 4 to 7 and chroma of 1 or 2
Texture—sandy clay loam, loam, or clay loam; strata or pockets and lenses of sandy clay and sandy loam in some pedons
Redoximorphic features—iron depletions in shades of olive and gray and masses of oxidized iron in shades of brown, yellow, and red

BCg horizon:
Color—neutral in hue or hue of 10YR to 5Y; value of 4 to 7 and chroma of 1 or 2
Texture—loamy sand or sandy loam; layer less than 5 inches thick if present
Redoximorphic features—iron depletions in shades of olive and gray and masses of oxidized iron in shades of brown, yellow, and red

2Cg horizon:
Color—neutral in hue or hue of 10YR to 5Y; value of 5 to 7 and chroma of 1 or 2
Texture—sand, loamy sand, or loamy fine sand; strata or pockets and lenses of sandy loam, clay loam, or sandy clay loam in some pedons
Redoximorphic features—iron depletions in shades of olive and gray and masses of oxidized iron in shades of brown, yellow, and red

Pungo Series

Physiographic province: Lower Coastal Plain
Landform: Pocosins

Parent material: Remains of vegetation dominated by tupelo, cypress, Atlantic white-cedar, and related nonwoody fibrous hydrophytic plants over loamy and clayey marine sediments
Drainage class: Very poorly drained
Slowest saturated hydraulic conductivity: Moderately low
Depth class: Very deep
Slope range: 0 to 2 percent

Associated Soils

- Belhaven soils, which have an organic layer 16 to 51 inches thick and are in similar landscape positions
- Dorovan soils, which are on adjacent flood plains

Taxonomic classification

Dysic, thermic Typic Haplosaprists

Typical Pedon

A Pungo soil in an area of Pungo muck, 0 to 2 percent slopes; in Camden County, NC; 7.5-minute USGS topographic quadrangle, South Mills, NC; lat. 36 degrees 29 minutes 54 seconds N. and long. 76 degrees 15 minutes 06 seconds W.; elevation, 13 feet.

Oa1—0 to 6 inches; black (5YR 2/1, broken face and rubbed) woody muck; about 5 percent fiber, less than 1 percent fiber rubbed; weak medium granular structure; friable; few fine and medium roots; common logs, stumps, and roots; extremely acid; clear smooth boundary.
Oa2—6 to 44 inches; dark reddish brown (5YR 2/2, broken face and rubbed) woody muck; about 10 percent fiber, less than 1 percent fiber rubbed; massive; sticky; few medium roots; many stumps and logs; extremely acid; gradual smooth boundary.
Oa3—44 to 62 inches; dark reddish brown (5YR 2/2, broken face and rubbed) woody muck; about 15 percent fiber, less than 2 percent fiber rubbed; massive; sticky; many logs, stumps, and roots; extremely acid; gradual smooth boundary.
Oa4—62 to 97 inches; black (10YR 2/1, broken face and rubbed) woody muck; about 5 percent fiber, less than 1 percent fiber rubbed; massive; sticky; common stumps and logs; extremely acid; clear smooth boundary.
2Cg—97 to 99 inches; gray (5Y 5/1) loam; massive; friable; very strongly acid.

Range in Characteristics

Thickness of organic layer: 51 to more than 80 inches
Depth to seasonal high water table: 0 to 1.0 foot
Reaction: Ultra acid or extremely acid, except where lime has been applied, in organic horizons; extremely acid to neutral in underlying mineral horizons
Other distinctive features: Logs, stumps, and roots occupy up to 35 percent of the surface area and subsurface volume. Unrubbed fiber content ranges from 2 to 60 percent toout the profile. Rubbed fiber content of middle and lower tiers ranges to 12 percent in some pedons. Charcoal content ranges from common in surface layers to few in subsurface layers.

Oa horizon (surface tier):
Color—hue of 5YR to 10YR, value of 2 or 3, and chroma of 1 or 2
Texture—sapric material (muck) that averages more than 20 percent wood fragments, mostly stumps and logs

Oa horizon (subsurface tier):

Color—neutral in hue or hue of 2.5YR to 5Y; value of 2 or 3 and chroma of 1 to 4; 10 inches or more has hue of 2.5YR or 5YR

Texture—sapric material (muck) that averages more than 20 percent wood fragments, mostly stumps and logs

2Cg horizon:

Color—neutral in hue or hue of 7.5YR to 5Y or 5GY to 5BG; value of 3 to 7 and chroma of 1 or 2

Texture—loam, clay loam, silty clay loam, sandy clay loam, sandy clay, silty clay, or clay; thin layers of loam, clay loam, or silty clay loam in some pedons

Roper Series

Physiographic province: Lower Coastal Plain
Landform: Marine terraces
Parent material: Silty marine sediments
Drainage class: Very poorly drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 0 to 2 percent

Associated Soils

- Belhaven soils, which have an organic layer 16 to 51 inches thick and are in similar landscape positions
- Cape Lookout soils, which have an organic layer less than 8 inches thick, have a clayey subsoil, and are in similar landscape positions
- Conaby soils, which have a coarse-loamy subsoil and are in similar landscape positions
- Hyde soils, which have an organic layer less than 8 inches thick and are in similar landscape positions
- Pettigrew soils, which have a clayey subsoil and are in similar landscape positions
- Portsmouth soils, which have an organic layer less than 8 inches thick, have a fine-loamy subsoil, and are in the slightly higher landscape positions
- Wasda soils, which have a fine-loamy subsoil and are in similar landscape positions

Taxonomic classification

Fine-silty, mixed, semiactive, acid, thermic Histic Humaquepts

Typical Pedon

A Roper soil in an area of Roper muck, 0 to 2 percent slopes; in Camden County, NC; 7.5-minute USGS topographic quadrangle, Lambs Corner, NC; lat. 36 degrees 24 minutes 29 seconds N. and long. 76 degrees 10 minutes 47 seconds W.; elevation, 7 feet.

Oap—0 to 6 inches; black (10YR 2/1, broken face and rubbed) muck; less than 1 percent fiber rubbed; weak fine granular structure; very friable; few fine roots; extremely acid; clear smooth boundary.

Oa—6 to 11 inches; black (10YR 2/1, broken face and rubbed) muck; less than 1 percent fiber rubbed; weak fine subangular blocky structure; very friable; few fine roots; extremely acid; clear smooth boundary.

A—11 to 17 inches; very dark grayish brown (10YR 3/2) mucky loam; weak medium subangular blocky structure; friable; common fine and medium roots; extremely acid; clear smooth boundary.

Bg1—17 to 26 inches; very dark gray (10YR 3/1) loam; weak medium subangular blocky structure; friable; common fine and medium roots; extremely acid; gradual smooth boundary.

Bg2—26 to 41 inches; dark gray (10YR 4/1) loam; weak medium subangular blocky structure; friable; common fine and medium roots; few lenses of sand and clay; common medium distinct dark grayish brown (10YR 4/2) iron depletions; extremely acid; gradual smooth boundary.

2Cg1—41 to 50 inches; greenish gray (5GY 5/1) sandy clay loam; massive; friable; few fine flakes of mica; common medium distinct dark gray (5Y 4/1) iron depletions; extremely acid; clear smooth boundary.

2Cg2—50 to 65 inches; grayish green (5G 4/2) sandy clay loam; massive; friable; few fine tubular pores; few fine flakes of mica; common medium distinct gray (5Y 6/1) and greenish gray (5BG 5/1) iron depletions; moderately acid; clear smooth boundary.

2Cg3—65 to 72 inches; dark greenish gray (5GY 4/1) sandy loam; massive; common fine flakes of mica; extremely acid.

Range in Characteristics

Thickness of organic layer: 8 to 16 inches
Solum thickness: 30 to more than 60 inches
Depth to seasonal high water table: 0 to 1.0 foot
Reaction: Extremely acid to strongly acid in the control section and extremely acid to slightly alkaline below the control section and in the C horizon.

Oa or Oap horizon:
Color—neutral in hue or hue 5YR to 2.5Y; value of 2 or 3 and chroma of 1 to 4
Texture—sapric material (muck)

A horizon:
Color—neutral in hue or hue of 5YR to 5Y; value of 2 to 4 and chroma of 1 or 2
Texture—silt loam, clay loam, mucky loam, mucky silt loam, silty clay loam, or loam

Bg horizon:
Color—neutral in hue or hue of 10YR to 5Y; value of 3 to 7 and chroma of 1 or 2; or hue of 5GY or 5G, value of 5 or 6, and chroma of 1
Texture—silty clay loam, loam, or silt loam; thin strata of clay loam or silty clay in some pedons
Redoximorphic features—iron depletions in shades of olive and gray and masses of oxidized iron in shades of brown, yellow, and red

BCg horizon:
Color—neutral in hue or hue of 10YR to 5Y; value of 3 to 7 and chroma of 1 or 2; or hue of 5GY or 5G, value of 5 or 6, and chroma of 1
Texture—silty clay loam, loam, or silt loam; thin strata of clay loam or silty clay in some pedons
Redoximorphic features—iron depletions in shades of olive and gray and masses of oxidized iron in shades of brown, yellow, and red

2Cg or Cg horizon:
Color—neutral in hue or hue of 7.5YR to 5Y or 5GY to 5BG; value of 3 to 7 and chroma of 1 or 2
Texture—stratified silt loam, loam, sand, loamy fine sand, loamy sand, sandy clay loam, sandy loam, silty clay, or clay

Seabrook Series

Physiographic province: Lower Coastal Plain
Landform: Stream terraces and marine terraces
Parent material: Sandy marine and fluvial sediments
Drainage class: Moderately well drained
Slowest saturated hydraulic conductivity: High or very high
Depth class: Very deep
Slope range: 0 to 2 percent

Associated Soils

- Bertie soils, which are somewhat poorly drained, have a fine-loamy subsoil, and are in depressions
- Bojac soils, which are well drained, have a coarse-loamy subsoil, and are in similar landscape positions
- Dragston soils, which are somewhat poorly drained, have a coarse-loamy subsoil, and are in similar landscape positions or in depressions
- Munden soils, which have a coarse-loamy subsoil and are in similar landscape positions
- Tetotum soils, which have a fine-loamy subsoil and are in similar landscape positions

Taxonomic Classification

Mixed, thermic Aquic Udipsamments

Typical Pedon

A Seabrook soil in an area of Seabrook loamy sand; in Hertford County, NC; 7.5-minute USGS topographic quadrangle, Murfreesboro, NC; lat. 36 degrees 27 minutes 03 seconds N. and long. 77 degrees 05 minutes 16 seconds W.; elevation, 7 feet.

Ap—0 to 8 inches; dark brown (10YR 3/3) loamy sand; weak fine granular structure; very friable; many fine roots; strongly acid; abrupt smooth boundary.

C1—8 to 24 inches; yellowish brown (10YR 5/4) sand; weak fine granular structure; single grain; very friable to loose; very strongly acid; gradual wavy boundary.

C2—24 to 35 inches; pale brown (10YR 6/3) sand; single grain; loose; few coarse faint light brownish gray (10YR 6/2) iron depletions; very strongly acid; gradual wavy boundary.

Cg—35 to 81 inches; light brownish gray (2.5Y 6/2) sand; single grain; loose; few reddish ironstone nodules 0.25 to 0.5 inch in diameter at about 55 inches; very strongly acid.

Range in Characteristics

Thickness of sandy layer: More than 72 inches
Depth to seasonal high water table: 2.0 to 3.5 feet
Reaction: Extremely acid to slightly acid, except where lime has been applied

A or Ap horizon:
Color—hue of 10YR or 2.5Y, value of 3 to 5, and chroma of 2 to 4
Texture—loamy fine sand, loamy sand, fine sand, or sand

C horizon (upper part):
Color—hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 3 to 8
Texture (fine-earth fraction)—loamy fine sand, loamy coarse sand, coarse sand, loamy sand, fine sand, or sand; thin strata of brownish coated grains of sand below depths of 40 inches in some pedons; streaks, lenses, and grains of uncoated sand from few to many in C horizon of some pedons

Redoximorphic features—iron depletions in shades of gray, olive, and brown and masses of oxidized iron in shades of yellow, brown, and red

C horizon (lower part):

Color—hue of 10YR to 5Y, value of 5 to 7, and chroma of 3 or 4

Texture (fine-earth fraction)—loamy fine sand, loamy coarse sand, coarse sand, loamy sand, fine sand, or sand; thin strata of brownish coated grains of sand below depths of 40 inches in some pedons; streaks, lenses, and grains of uncoated sand from few to many in C horizon of some pedons

Redoximorphic features—iron depletions in shades of gray, olive, and brown and masses of oxidized iron in shades of yellow, brown, and red

Cg horizon (where present):

Color—hue of 10YR to 5Y, value of 5 to 7, and chroma of 1 or 2

Texture (fine-earth fraction)—loamy fine sand, loamy coarse sand, coarse sand, loamy sand, fine sand, or sand

Redoximorphic features—iron depletions in shades of gray, olive, and brown and masses of oxidized iron in shades of yellow, brown, and red

Tetotum Series

Physiographic province: Lower Coastal Plain
Landform: Stream terraces and marine terraces
Parent material: Moderately fine-textured fluvial or marine sediments underlain by stratified coarse- to medium-textured sediments
Drainage class: Moderately well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 0 to 2 percent

Associated Soils

- Bertie soils, which are somewhat poorly drained and are in the lower landscape positions
- Bojac soils, which are well drained, have a coarse-loamy subsoil, and are in the higher landscape positions
- Chesapeake soils, which are well drained and are in similar landscape positions
- Nimmo soils, which are poorly drained, have a coarse-loamy subsoil, and are in depressions
- Tomotley soils, which are poorly drained and are in depressions

Taxonomic Classification

Fine-loamy, mixed, semiactive, thermic Aquic Hapludults

Typical Pedon

A Tetotum soil in an area of Tetotum fine sandy loam, 0 to 2 percent slopes; in King George County, VA, USGS topographic quadrangle, Dahlgren, VA; lat. 38 degrees 16 minutes 48 seconds N. and long. 77 degrees 00 minutes 55 seconds W.; elevation, 19 feet.

Ap—0 to 9 inches; dark grayish brown (10YR 4/2) fine sandy loam; moderate fine granular structure; very friable; many fine roots; 2 percent fine gravel; moderately acid; clear smooth boundary.

Bt1—9 to 14 inches; dark yellowish brown (10YR 4/4) sandy clay loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; many fine roots;

common fine pores; few distinct clay films on faces of peds; 2 percent fine gravel; strongly acid; clear smooth boundary.

Bt2—14 to 23 inches; yellowish brown (10YR 5/4) clay loam; moderate medium subangular blocky structure; firm, sticky, slightly plastic; common fine roots; common fine pores; few distinct clay films on faces of peds; 2 percent fine gravel; strongly acid; clear smooth boundary.

Bt3—23 to 30 inches; yellowish brown (10YR 5/8) clay loam; moderate fine subangular blocky structure; firm, sticky, slightly plastic; few fine roots; few fine pores; few distinct clay films on faces of peds; few fine distinct gray (10YR 6/1) iron depletions and strong brown (7.5YR 5/8) soft masses of oxidized iron; 2 percent fine gravel; strongly acid; clear smooth boundary.

Bt4—30 to 38 inches; variegated yellowish brown (10YR 5/8), gray (10YR 6/1), and red (2.5YR 4/8) clay loam; moderate fine angular blocky structure; firm, sticky, plastic; few fine roots; few fine pores; common distinct clay films on faces of peds; 10 percent fine gravel; very strongly acid; clear smooth boundary.

Btg—38 to 48 inches; gray (10YR 6/1) sandy clay loam; weak medium subangular blocky structure; firm, slightly sticky, slightly plastic; few fine roots; few fine pores; few faint clay films on faces of peds; many fine distinct strong brown (7.5YR 5/6) and yellowish brown (10YR 5/6) soft masses of oxidized iron; 5 percent fine gravel; very strongly acid; gradual smooth boundary.

2Cg—48 to 72 inches; gray (10YR 6/1) stratified fine sandy loam and loamy fine sand; massive; friable; common medium distinct yellowish brown (10YR 5/4) and strong brown (7.5YR 5/6) soft masses of oxidized iron; 2 percent fine gravel; very strongly acid.

Range in Characteristics

Solum thickness: 40 to more than 60 inches
Depth to seasonal high water table: 1.5 to 2.5 feet
Reaction: Extremely acid to strongly acid, except where lime has been applied

A or Ap horizon:
Color—hue of 10YR or 2.5Y, value of 3 to 5, and chroma of 2 to 4
Texture—sandy loam, fine sandy loam, loam, or silt loam

E horizon (where present):
Color—hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 2 to 4
Texture—sandy loam, fine sandy loam, loam, or silt loam

BA or BE horizon (where present):
Color—hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 3 to 8
Texture—sandy loam, fine sandy loam, sandy clay loam, loam, or silt loam

Bt horizon (upper part):
Color—hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 4 to 8
Texture—typically clay loam or loam; subhorizons of sandy clay loam, silt loam, or silty clay loam in some pedons

Bt horizon (lower part):
Color—hue of 7.5YR to 5Y, value of 5 to 7, and chroma of 3 to 8; variegated in these and other hues without dominant matrix color in some pedons
Texture—typically clay loam or loam; subhorizons of sandy clay loam, silt loam, or silty clay loam in some pedons
Redoximorphic features—iron depletions in shades of gray and masses of oxidized iron in shades of red in some pedons

Btg horizon:
Color—hue of 7.5YR to 5Y, value of 4 to 7, and chroma of 1 or 2; or variegated in these and other hues without dominant matrix color
Texture—typically clay loam or loam; subhorizons of sandy clay loam, silt loam, or silty clay loam in some pedons
Redoximorphic features—iron depletions in shades of gray and masses of oxidized iron in shades of red in some pedons

BC or CB horizon (where present):
Color—hue of 7.5YR to 5Y, value of 5 to 7, and chroma of 3 to 8; or variegated in these and other hues without dominant matrix color
Texture—sandy loam, fine sandy loam, very fine sandy loam, sandy clay loam, or loam
Redoximorphic features—iron depletions in shades of gray and masses of oxidized iron in shades of red in some pedons

BCg or CBg horizon (where present):
Color—hue of 7.5YR to 5Y, value of 5 to 7, and chroma of 1 or 2; or variegated in these and other hues without dominant matrix color
Texture—sandy loam, fine sandy loam, very fine sandy loam, sandy clay loam, or loam
Redoximorphic features—iron depletions in shades of gray and masses of oxidized iron in shades of red in some pedons

C or 2C horizon:
Color—hue of 7.5YR to 5Y, value of 5 to 7, and chroma of 3 to 8
Texture—stratified sand to sandy clay loam; strata of finer textures in some pedons
Redoximorphic features—iron depletions in shades of gray and masses of oxidized iron in shades of red in some pedons

Cg or 2Cg horizon (where present):
Color—hue of 7.5YR to 5Y, value of 5 to 7, and chroma of 1 or 2
Texture—stratified sand to sandy clay loam; strata of finer textureS in some pedons
Redoximorphic features—iron depletions in shades of gray and masses of oxidized iron in shades of red in some pedons

Tomotley Series

Physiographic province: Lower Coastal Plain
Landform: Stream terraces and marine terraces
Parent material: Loamy marine and fluvial sediments
Drainage class: Poorly drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 0 to 2 percent

Associated Soils

- Arapahoe soils, which are very poorly drained, have a coarse-loamy subsoil, and are in similar landscape positions or in depressions
- Bertie soils, which are somewhat poorly drained and are in the slightly higher landscape positions
- Cape Lookout soils, which are very poorly drained, have a clayey subsoil, and are in similar landscape positions

- Gertie soils, which have a clayey subsoil and are in similar landscape positions
- Nimmo soils, which have a coarse-loamy subsoil and are in similar landscape positions
- Portsmouth soils, which are very poorly drained, have a thinner solum, and are in similar landscape positions or in depressions
- Tetotum soils, which are moderately well drained and are in the slightly higher landscape positions

Taxonomic Classification

Fine-loamy, mixed, semiactive, thermic Typic Endoaquults

Typical Pedon

A Tomotley soil in an area of Tomotley fine sandy loam; in Chowan County, NC; 7.5-minute USGS topographic quadrangle, Edenton, NC; lat. 36 degrees 04 minutes 27 seconds N. and long. 76 degrees 36 minutes 43 seconds W.; elevation, 13 feet.

Ap—0 to 7 inches; dark grayish brown (10YR 4/2) fine sandy loam; weak medium granular structure; very friable; common fine and medium roots; slightly acid; abrupt smooth boundary.

Btg1—7 to 12 inches; light gray (10YR 7/1) fine sandy loam; weak medium subangular blocky structure; friable; few fine prominent yellowish brown (10YR 5/6) soft masses of oxidized iron; few faint clay films on faces of peds; few fine and medium roots; slightly acid; clear smooth boundary.

Btg2—12 to 42 inches; light brownish gray (2.5Y 6/2) sandy clay loam; moderate medium subangular blocky structure; friable, slightly sticky, slightly plastic; common medium prominent strong brown (7.5YR 5/8) and yellowish brown (10YR 5/6) soft masses of oxidized iron; few distinct clay films on faces of peds; strongly acid; clear smooth boundary.

BCg—42 to 50 inches; 35 percent light brownish gray (2.5Y 6/2), 35 percent gray (10YR 6/1), and 30 percent yellowish brown (10YR 5/8) sandy loam that has pockets of loamy sand; weak fine subangular blocky structure; friable; very strongly acid; clear smooth boundary.

Cg—50 to 72 inches; gray (10YR 6/1) loamy sand; massive; friable; many medium prominent yellowish brown (10YR 5/6) and strong brown (7.5YR 5/8) soft masses of oxidized iron; very strongly acid.

Range in Characteristics

Solum thickness: 30 to more than 60 inches
Depth to seasonal high water table: 0 to 1.0 foot
Reaction: Extremely acid to strongly acid in the A, Eg, BEg, BA, and Btg horizons and extremely acid to moderately acid in the BCg and Cg horizons, except where lime has been applied

A or Ap horizon:
Color—neutral in hue or hue of 10YR to 5Y; value of 2 to 4 and chroma of 1 or 2
Texture—loamy sand, loamy fine sand, sandy loam, fine sandy loam, loam, or silt loam

Eg horizon (where present):
Color—neutral in hue or hue of 10YR or 2.5Y; value of 4 to 8 and chroma of 1 or 2
Texture—loamy sand, loamy fine sand, sandy loam, fine sandy loam, loam, or silt loam

Redoximorphic features—iron depletions in shades of olive and gray and masses of oxidized iron in shades of brown, yellow, and red

BA or BEg horizon (where present):
Color—neutral in hue or hue of 10YR or 2.5Y; value of 4 to 7 and chroma of 1 or 2
Texture—sandy loam, fine sandy loam, loam, or silt loam
Redoximorphic features—iron depletions in shades of olive and gray and masses of oxidized iron in shades of brown, yellow, and red

Btg horizon:
Color—neutral in hue or hue of 10YR to 5Y; value of 4 to 7 and chroma of 1 or 2
Texture—sandy clay loam, clay loam, loam, sandy loam, or fine sandy loam; thin subhorizons of silt loam or silty clay loam in some pedons; clay or sandy clay below 40 inches in some pedons
Redoximorphic features—iron depletions in shades of olive and gray and masses of oxidized iron in shades of brown, yellow, and red

BCg or CBg horizon:
Color—neutral in hue or hue of 10YR to 5Y; value of 4 to 8 and chroma of 1 or 2
Texture—fine sandy loam, sandy loam, loam, clay loam, sandy clay loam, silt loam, or sandy clay; commonly thin strata or pockets of contrasting textures
Redoximorphic features—iron depletions in shades of olive and gray and masses of oxidized iron in shades of brown, yellow, and red

Cg horizon:
Color—neutral in hue or hue of 10YR to 5Y, 5BG, or 5GY; value of 4 to 8 and chroma of 1 or 2
Texture—variable, ranging from sand to clay; commonly pockets or strata of contrasting textures
Redoximorphic features—iron depletions in shades of olive and gray and masses of oxidized iron in shades of brown, yellow, and red

Wahee Series

Physiographic province: Lower Coastal Plain
Landform: Stream terraces and marine terraces
Parent material: Clayey and loamy marine and fluvial sediments
Drainage class: Somewhat poorly drained
Slowest saturated hydraulic conductivity: Moderately low
Depth class: Very deep
Slope range: 0 to 2 percent

Associated Soils

- Cape Lookout soils, which are very poorly drained and are in similar landscape positions
- Chapanoke soils, which have a fine-silty subsoil and are in similar landscape positions
- Conaby soils, which have a coarse-loamy subsoil and are in similar landscape positions
- Deloss and Portsmouth soils, which have a mineral or mucky mineral surface and a fine-loamy subsoil and are in slightly higher or similar landscape positions
- Gertie soils, which are poorly drained and are in similar landscape positions
- Pettigrew soils, which have an organic layer 8 to 16 inches thick, have a clayey subsoil, and are in similar landscape positions
- Roper soils, which have an organic layer 8 to 16 inches thick, have a fine-silty subsoil, and are in similar landscape positions

Taxonomic Classification

Fine, mixed, semiactive, thermic Aeric Endoaquults

Typical Pedon

A Wahee soil in an area of Wahee silt loam, 0 to 2 percent slopes; in Pasquotank County, NC; 7.5-minute USGS topographic quadrangle, Nixonton, NC; lat. 36 degrees 11 minutes 43 seconds N. and long. 76 degrees 15 minutes 49 seconds W.; elevation, 1 foot.

Ap—0 to 7 inches; light olive brown (2.5Y 5/3) silt loam; moderate fine granular structure; very friable; many fine and very fine roots; moderately acid; clear smooth boundary.

Bt—7 to 12 inches; olive brown (2.5Y 4/3) silty clay loam; moderate medium subangular blocky structure; firm, moderately sticky, slightly plastic; common fine roots; common medium distinct light brownish gray (2.5Y 6/2) iron depletions; strongly acid; clear smooth boundary.

Btg1—12 to 23 inches; grayish brown (2.5Y 5/2) silty clay; moderate coarse subangular blocky structure; firm, moderately sticky, moderately plastic; few fine and very fine roots; common medium distinct light olive brown (2.5Y 5/6) masses of oxidized iron; strongly acid; clear smooth boundary.

Btg2—23 to 34 inches; gray (2.5Y 5/1) silty clay loam; moderate coarse subangular blocky structure; firm, moderately sticky, moderately plastic; common coarse distinct gray (N 5/) iron depletions and common medium prominent brown (7.5YR 5/3) and many coarse prominent yellowish brown (10YR 5/6) masses of oxidized iron; strongly acid; clear smooth boundary.

BCg—34 to 41 inches; gray (2.5Y 5/1) loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; common coarse prominent yellowish brown (10YR 5/6) masses of oxidized iron; strongly acid; gradual smooth boundary.

Cg—41 to 60 inches; gray (2.5Y 5/1) sandy loam; massive; very friable; strongly acid.

Range in Characteristics

Solum thickness: 30 to more than 60 inches
Depth to seasonal high water table: 0.5 to 1.5 feet
Reaction: Very strongly acid to moderately acid in the A horizon, except where lime has been applied, and extremely acid to strongly acid in the B, BC, and C horizons

A or Ap horizon:
Color—neutral in hue or hue of 10YR or 2.5Y; value of 2 to 5 and chroma of 1 to 3
Texture—loam, silt loam, very fine sandy loam, fine sandy loam, sandy loam, or loamy sand

E horizon (where present):
Color—hue of 10YR to 5Y, value of 5 to 7, and chroma of 2 to 4
Texture—loam, silt loam, very fine sandy loam, fine sandy loam, sandy loam, or loamy sand

Bt horizon:
Color—hue of 10YR to 5Y, value of 5 to 7, and chroma of 3 to 8
Texture—clay, clay loam, sandy clay loam, sandy clay, or silty clay
Redoximorphic features—iron depletions in shades of gray and olive and masses of oxidized iron in shades of red, yellow, and brown

Btg horizon:
Color—neutral in hue or hue of 10YR to 5Y; value of 4 to 7 and chroma of 1 or 2

Texture—clay, clay loam, sandy clay, or silty clay
Redoximorphic features—iron depletions in shades of gray and masses of oxidized iron in shades of brown and yellow

BCg or CBg horizon (where present):
Color—neutral in hue or hue of 10YR to 5Y; value of 4 to 7 and chroma of 1 or 2
Texture—sandy clay, silty clay loam, clay loam, sandy clay loam, or fine sandy loam
Redoximorphic features—iron depletions in shades of gray and olive and masses of oxidized iron in shades of red, yellow, and brown

Cg horizon:
Color—neutral in hue or hue of 10YR to 5Y; value of 5 to 7 and chroma of 1 or 2
Texture—variable
Redoximorphic features—iron depletions in shades of gray, olive, and green and masses of oxidized iron in shades of red, yellow, and brown

Wasda Series

Physiographic province: Lower Coastal Plain
Landform: Marine terraces
Parent material: Loamy marine sediments
Drainage class: Very poorly drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 0 to 2 percent

Associated Soils

- Belhaven soils, which have an organic layer 16 to 51 inches thick and are in similar landscape positions
- Cape Lookout soils, which are poorly drained and are in similar landscape positions
- Conaby soils, which have a coarse-loamy subsoil and are in similar landscape positions
- Deloss and Portsmouth soils, which have a mineral or mucky mineral surface, have a fine-loamy subsoil, and are in slightly higher or similar landscape positions
- Pettigrew soils, which have a clayey subsoil and are in similar landscape positions
- Roper soils which have a fine-silty subsoil and are in similar landscape positions

Taxonomic Classification

Fine-loamy, mixed, semiactive, acid, thermic Histic Humaquepts

Typical Pedon

A Wasda soil in an area of Wasda-Conaby complex, 0 to 2 percent slopes; in Pasquotank County, NC; 7.5-minute USGS topographic quadrangle, Pasquotank, NC; lat. 36 degrees 21 minutes 02 seconds N. and long. 76 degrees 19 minutes 37 seconds W.; elevation, 9 feet.

Oap—0 to 4 inches; black (N 2.5/, broken face and rubbed) muck; less than 1 percent fiber rubbed; weak medium granular structure; very friable; many fine and very fine roots; moderately acid; clear smooth boundary.

Oa—4 to 10 inches; black (10YR 2/1, broken face and rubbed) muck; less than 1 percent fiber rubbed; weak medium granular structure; friable, slightly sticky; common fine and few medium roots; strongly acid; gradual smooth boundary.

A—10 to 15 inches; black (10YR 2/1) mucky sandy loam; weak medium granular structure; very friable; few medium and coarse roots; extremely acid; clear smooth boundary.

Bg1—15 to 24 inches; very dark gray (10YR 3/1) and very dark grayish brown (10YR 3/2) fine sandy loam; weak fine granular structure; very friable; common fine and coarse roots; extremely acid; gradual wavy boundary.

Bg2—24 to 36 inches; black (10YR 2/1) sandy clay loam that has pockets of clay; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; common medium and few coarse roots; extremely acid; clear wavy boundary.

Cg—36 to 62 inches; black (10YR 2/1) clay loam; massive; firm; few medium and coarse roots; common medium prominent greenish gray (5GY 5/1) iron depletions; very strongly acid.

Range in Characteristics

Thickness of organic layer: 8 to 16 inches
Solum thickness: 6 to 18 inches
Depth to seasonal high water table: 0 to 1.0 foot
Reaction: Extremely acid to strongly acid in A and Bg horizons and very strongly acid to mildly acid in the Cg horizon

Oa horizon:
Color—neutral in hue or hue of 2.5YR to 5Y; value of 2 or 3 and chroma of 1 or 2
Texture—sapric material (muck)

A or Ap horizon:
Color—hue of 10YR to 5Y, value of 2 to 4, and chroma of 1 or 2
Texture—mucky loam, mucky sandy loam, mucky sandy clay loam, loam, sandy loam, or fine sandy loam

Bg horizon:
Color—hue of 10YR to 5Y, value of 2 to 5, and chroma of 1 or 2
Texture—generally clay loam; ranges to sandy loam or sandy clay loam in some pedons; commonly contains thin lenses of sand and clay
Redoximorphic features—masses of oxidized iron in shades of brown, yellow, or red in some pedons

Cg horizon:
Color—neutral in hue or hue of 10YR to 5Y; value of 5 to 7 and chroma of 1 or 2; or hue of 5GY or 5BG, value of 4 to 6, and chroma of 1
Texture—stratified sandy clay loam to sand; thin layers of clay loam, silty clay, or clay in some pedons

Weeksville Series

Physiographic province: Lower Coastal Plain
Landform: Marine terraces
Parent material: Loamy marine sediments
Drainage class: Very poorly drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 0 to 2 percent

Associated Soils

- Gertie soils, which are poorly drained, have a clayey subsoil, and are in similar landscape positions
- Hyde soils, which have a fine-silty subsoil and are in similar landscape positions
- Pasquotank soils, which are poorly drained and are in similar landscape positions
- Perquimans soils, which are poorly drained, have a fine-silty subsoil, and are in similar landscape positions

- Tomotley soils, which are poorly drained, have a fine-loamy subsoil, and are in similar landscape positions

Taxonomic Classification

Coarse-silty, mixed, semiactive, acid, thermic Typic Humaquepts

Typical Pedon

A Weeksville soil in an area of Weeksville loam, 0 to 2 percent slopes, rarely flooded; in Hyde County, NC; 7.5-minute USGS topographic quadrangle, Fairfield, NC; lat. 35 degrees 32 minutes 12 seconds N. and long. 76 degrees 14 minutes 25 seconds W.

Ap—0 to 6 inches; very dark brown (10YR 2/2) loam; moderate medium granular structure; friable; common fine roots; very strongly acid; gradual smooth boundary.

AB—6 to 13 inches; very dark brown (10YR 2/2) loam; moderate medium subangular blocky structure; friable; few fine roots; very strongly acid; gradual smooth boundary.

Bg1—13 to 32 inches; dark grayish brown (10YR 4/2) loam; moderate medium subangular blocky structure; friable; few fine flakes of mica; very strongly acid; gradual smooth boundary.

Bg2—32 to 38 inches; dark grayish brown (2.5Y 4/2) loam; moderate medium subangular blocky structure; friable; few fine prominent strong brown (7.5YR 4/6) masses of oxidized iron; few fine flakes of mica; very strongly acid; clear smooth boundary.

BCg—38 to 45 inches; grayish brown (10YR 5/2) loam; moderate medium subangular blocky structure; friable; common medium faint yellowish brown (10YR 5/4) masses of oxidized iron; common fine flakes of mica; strongly acid; clear smooth boundary.

Cgl—45 to 60 inches; gray (10YR 6/1) loam; massive; friable; common medium distinct light olive brown (2.5Y 5/4) and few fine prominent dark reddish brown (5YR 3/4) masses of oxidized iron; common fine flakes of mica; strongly acid; clear smooth boundary.

Cg2—60 to 72 inches; olive gray (5Y 5/2) fine sandy loam; massive; friable; common medium distinct olive (5Y 5/6) and yellowish red (5YR 4/6) masses of oxidized iron; common fine flakes of mica; moderately acid.

Range in Characteristics

Solum thickness: 30 to more than 60 inches
Depth to seasonal high water table: 0 to 1.0 foot
Reaction: Very strongly acid to strongly acid, except where lime has been applied

A or Ap horizon:
Color—neutral in hue or hue of 10YR to 5Y; value of 2 to 3 and chroma of 1 or 2
Texture—silt loam, very fine sandy loam, or loam

AB horizon:
Color—neutral in hue or hue of 10YR to 5Y; value of 2 or 3 and chroma of 1 or 2
Texture—silt loam, very fine sandy loam, or loam

Bg horizon:
Color—neutral in hue or hue of 10YR to 5Y; value of 4 to 7 and chroma of 1 or 2
Texture—loam, silt loam, or very fine sandy loam; thin layers of silty clay loam and clay loam in some pedons
Redoximorphic features—iron depletions in shades of gray and olive and masses of oxidized iron in shades of yellow, brown, and red

BCg horizon (where present):
Color—neutral in hue or hue of 10YR to 5Y; value of 4 to 7 and chroma of 1 or 2
Texture—loam, silt loam, or very fine sandy loam; thin layers of silty clay loam and clay loam in some pedons
Redoximorphic features—iron depletions in shades of gray and olive and masses of oxidized iron in shades of yellow, brown, and red

2CBg or 2BCg horizon (where present):
Color—neutral in hue or hue of 10YR to 5Y or 5GY to 5BG; value of 4 to 8 and chroma of 1 or 2
Texture—sandy loam or fine sandy loam; thin lenses of loamy sand, loamy fine sand, or sand in some pedons
Redoximorphic features—iron depletions in shades of gray and olive and masses of oxidized iron in shades of yellow, brown, and red

Cg or 2Cg horizon (where present):
Color—neutral in hue or hue of 10YR to 5Y or 5GY to 5BG; value of 4 to 8 and chroma of 1 or 2
Texture—sand, loamy sand, or loamy fine sand
Redoximorphic features—iron depletions in shades of gray and olive and masses of oxidized iron in shades of yellow, brown, and red

Yeopim Series

Physiographic province: Lower Coastal Plain
Landform: Marine terraces
Parent material: Loamy marine sediments
Drainage class: Moderately well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 0 to 2 percent

Associated Soils

- Barclay soils, which are somewhat poorly drained, have a coarse-loamy subsoil, and are in similar landscape positions
- Bertie soils, which are somewhat poorly drained, have a fine-loamy subsoil, and are in similar landscape positions
- Chapanoke soils, which are somewhat poorly drained and are in similar landscape positions
- Chesapeake soils, which are well drained, have a fine-loamy subsoil, and are in the higher landscape positions
- Nixonton soils, which are well drained and are in the higher landscape positions
- Pasquotank soils, which are poorly drained, have a coarse-silty subsoil, and are in depressions
- Perquimans soils, which are poorly drained and are in depressions
- Tetotum soils, which have a fine-loamy subsoil and are in similar landscape positions

Taxonomic Classification

Fine-silty, mixed, semiactive, thermic Aquic Hapludults

Typical Pedon

A Yeopim soil in an area of Yeopim silt loam, 0 to 2 percent slopes; in Beaufort County, NC; 7.5-minute USGS topographic quadrangle, Pantego, NC; lat. 36 degrees

34 minutes 44 seconds N. and long. 76 degrees 39 minutes 50 seconds W.; elevation, 7 feet.

Ap—0 to 5 inches; yellowish brown (10YR 5/4) silt loam; weak fine granular structure; very friable; few fine and medium roots; moderately acid; abrupt smooth boundary.

Bt1—5 to 16 inches; yellowish brown (10YR 5/4) silty clay loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; few medium roots; few faint clay films on faces of peds; few medium distinct dark brown (7.5YR 4/4) masses of oxidized iron; strongly acid; clear smooth boundary.

Bt2—16 to 31 inches; light yellowish brown (10YR 6/4) silty clay loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; few faint clay films on faces of peds; common medium distinct light gray (10YR 7/2) iron depletions and common medium distinct reddish yellow (7.5YR 6/6) masses of oxidized iron; strongly acid; clear smooth boundary.

Btg—31 to 49 inches; light gray (10YR 7/1) silty clay loam; weak fine subangular blocky structure; very friable, slightly sticky, slightly plastic; few faint clay films on faces of peds; few medium distinct yellow (10YR 7/6) and few fine distinct very pale brown (10YR 7/3) masses of oxidized iron; strongly acid; clear smooth boundary.

2C—49 to 62 inches; mottled light gray (10YR 7/2), very pale brown (10YR 7/4), yellow (10YR 7/8), and strong brown (7.5YR 5/8) sandy loam that has pockets of sand and sandy clay loam; massive; friable; strongly acid.

Range in Characteristics

Solum thickness: 30 to 60 inches
Depth to seasonal high water table: 1.5 to 3.0 feet
Reaction: Extremely acid to moderately acid, except where lime has been applied

A or Ap horizon:
Color—hue of 10YR or 2.5Y, value of 3 to 5, and chroma of 1 to 4; where value of 3 horizon less than 6 inches thick
Texture—silt loam, loam, fine sandy loam, or very fine sandy loam

E horizon (where present):
Color—hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 2 to 6
Texture—silt loam, loam, fine sandy loam, or very fine sandy loam

Bt horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 4 to 8
Texture—commonly silty clay loam, clay loam, or loam; thin layers of silt loam, sandy clay loam, fine sandy loam, very fine sandy loam, or silty clay in some pedons
Redoximorphic features—iron depletions in shades of brown, olive, and gray and masses of oxidized iron in shades of brown, yellow, and red; iron depletions within upper 24 inches of Bt horizon

Btg horizon:
Color—hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 1 or 2
Texture—commonly silty clay loam, clay loam, or loam; thin layers of silt loam, sandy clay loam, fine sandy loam, very fine sandy loam, or silty clay in some pedons
Redoximorphic features—iron depletions in shades of brown, olive, and gray and masses of oxidized iron in shades of brown, yellow, and red

BC horizon (where present):
Color—hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 4 to 8

Texture—silt loam, loam, silty clay loam, very fine sandy loam, or fine sandy loam
Redoximorphic features—iron depletions in shades of brown, olive, and gray and masses of oxidized iron in shades of brown, yellow, and red

BCg horizon (where present):
Color—hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 1 or 2
Texture—silt loam, loam, silty clay loam, very fine sandy loam, or fine sandy loam
Redoximorphic features—iron depletions in shades of brown, olive, and gray and masses of oxidized iron in shades of brown, yellow, and red

C or 2C horizon:
Color—hue of 10YR to 5Y, value of 5 to 7, and chroma of 3 to 6
Texture—sandy or loamy; thin strata of clay in some pedons
Redoximorphic features—iron depletions in shades of brown, olive, and gray and masses of oxidized iron in shades of brown, yellow, and red

Cg or 2Cg horizon (where present):
Color—hue of 10YR to 5Y, value of 5 to 7, and chroma of 1 or 2
Texture—sandy or loamy; thin strata of clay in some pedons
Redoximorphic features—iron depletions in shades of brown, olive, and gray and masses of oxidized iron in shades of brown, yellow, and red

Formation of the Soils

This section describes the factors of soil formation and relates them to the soils in the survey area. It also explains the major processes of soil horizon development.

Factors of Soil Formation

Soils are intimate mixtures of broken and partly or completely weathered rock, minerals, organic matter, plants and animals, water, and air. They occur as part of the natural landscape and differ from place to place. They differ in occurrence, in degree of development of various horizons, in mineral content, and in texture, color, and slope. The characteristics of the soils in any given area depend upon the interaction of the five factors of soil formation, which are parent material, climate, living organisms, topography, and time. Topography over time modifies the effect of climate and living organisms on parent material (Jenny, 1941).

Parent Material

Parent material is the unconsolidated material in which a soil forms. It is largely responsible for the chemical and mineral composition of soils. The parent material in the survey area is primarily fluvial and marine sediment.

Fluvial and marine sediment is transported material that has been reworked by stream and marine action and forms the basis for the soils of the Coastal Plain. It consists of transported and reworked sands, silts, and clays. The material is layered and the texture changes abruptly in many places in vertical or horizontal directions. Soil formed from fluvial and marine sediment commonly is strongly acid or very strongly acid and low in bases. The texture of the soil reflects the textures of the layers from which it was formed.

Fluvial sediment is material transported by water and deposited as unconsolidated deposits of sand, silt, and clay. It forms the basis for soils on terraces of the Coastal Plain. Fluvial parent material is of local origin along the smaller streams and drainageways and is of both local and general origin along the major drainageways. Fluvial sediment has a mixed mineral makeup because of fluvial and marine deposits found in the uplands. Total thickness of the fluvial sediment ranges from several feet along the drainageways and small streams to several tens of feet along major rivers. Fluvial sediment along the drainageways and small streams is commonly medium-textured to coarse-textured. Along the major drainageways texture can vary widely. They range from fine-textured slack water deposits to coarse-textured sand. The soils that formed in fluvial sediment are low in bases and moderately acid to very strongly acid.

Climate

Climate affects the physical, chemical, and biological relationships in soils, primarily through the influence of precipitation and temperature. Water dissolves minerals, supports biological activity, and transports mineral and organic residue through the solum. Temperature determines the type of physical, chemical, and biological activity that takes place and the rate at which it occurs.

The survey area has a rather humid, temperate climate that is typical of most coastal or near-coastal areas of the Middle Atlantic States. The average annual rainfall is about 48 inches and the average air temperature is between 44 and 78 degrees F. Rainfall is well distributed throughout the year, but normally July and August are the months of highest rainfall.

The climate is fairly uniform throughout the county, and there are no significant differences in elevation. Thus, there are no obstructions to the movement of winds, clouds, and rainstorms. Masses of air generally move through the county from the west-southwest.

Because precipitation exceeds evapotranspiration, this humid, rather uniform climate has caused the soils to be strongly leached. Most of the soluble material that either was originally present or was released through weathering has been removed. Therefore, most of the soils are strongly acid and generally are low in plant nutrients.

Precipitation mainly is responsible for the subsoil that characterizes most soils in the survey area. In addition to leaching soluble material, water that percolates through the soil moves clay from the surface layer to a subsoil layer. Except for soils formed in recent alluvium or sand, soils of the survey area have subsoils that contain more clay than the surface layer.

Also influenced by climate is the formation of blocky structure in the subsoil of well developed soils. The development of peds (aggregates) in the subsoil is caused by changes in volume of the soil mass. These changes are primarily the result of alternating wet and dry periods and of alternating freezing and thawing periods.

Weathering of minerals is at a rate proportional to temperature and the amount of moisture. Soil weathers more rapidly in tropical regions than in temperate regions and humid regions. In the Tidewater region of the Coastal Plain, the soils are relatively low in weatherable minerals. They contain no free carbonates and most of the bases have been leached out. However, because many of the soils that formed in transported parent material had previously undergone one or more cycles of erosion, these materials may have been highly weathered and leached at the time they were deposited.

Living Organisms

Plants and animals are the main source of organic matter in soils. Organic matter decomposes and is incorporated into the soil by the action of micro-organisms and earthworms and, to a lesser degree, by windthrown trees and burrowing animals.

Before settlement by man, the native vegetation was most important in the complex of living organisms that affect soil development. The settlers found a dense forest that consisted mainly of hardwoods. Oaks were dominant in most parts of the area. Yellow-poplar, sweetgum, blackgum, holly, hickory, maple, dogwood, loblolly pine, and Virginia pine were also important, but there were probably few pure stands of pine before the area was settled. The fairly pure stands of pine that exist today generally are in areas that were once cleared and cultivated.

Most hardwoods use large amounts of calcium and other bases if they are available. Soils that are normally high in bases remain so under a cover of deciduous trees because, in large part, these bases are returned to the soil each year. When the leaves fall and decompose, the bases reenter the soil and are again used by plants.

The soils in the Tidewater region of the Coastal Plain, however, have never been very high in bases; consequently, they are acid even under a cover of hardwoods. Soils that are strongly acid and low in fertility are better suited to pines than to most hardwoods. Pines do not require large amounts of calcium and other bases. Their needles do little to restore fertility to the soil.

As agriculture and urban growth developed in the area, humans became important factors in the development of the soils. The clearing of forests, cultivation in some areas, introduction of new kinds of crops and other plants, and improvements in drainage affected development of the soils and will continue to affect their development in the future.

The most important changes brought about by humans include mixing of the upper horizons of the soil to form a plow layer and liming and fertilizing to change the content of plant nutrients, especially in the upper horizons.

Topography

Topography, or relief, affects the formation of soils by influencing the rate of infiltration, the rate of surface runoff, soil drainage, geologic erosion, and soil temperature. It can alter the effects of other soil-forming factors to the extent that several different kinds of soil can form from the same parent material. Differences in topography can cause the same parent material to weather at different rates, thus affecting the impact of plants and animals on soil formation.

The Tidewater region of the Coastal Plain has a generally flat topography that is only slightly incised by the major drainage patterns. A relatively narrow area of river terrace is present along the Little River, Pasquotank River, and smaller drainageways in the county. Elevations in the area range from near sea level along the Albemarle Sound to a height of about 21 feet in the northern part of the survey area.

The survey area is drained by a number of short streams that empty into the Pasquotank River on the east side of the county and the Little River on the west side of the county. Both of these rivers empty into the Albemarle Sound. The drainage pattern is, in general, dendritic, but it is irregularly branched. The general fluvial cycle is in a stage of early maturity.

Elizabeth City is the only major urban area in Pasquotank County and is on the edge of the Pasquotank River on the east side of the county. Urban and residential areas of the city generally are 3 to 10 feet in elevation and basically have a flat topography with 0 to 2 percent slopes. These nearly level areas have a slow rate of runoff and a good rate of water infiltration.

Soils on marine terraces range from well drained to very poorly drained and commonly are on slopes of 0 to 2 percent. Drainage is commonly related to both the texture and position of the soil on the landscape. Thus, soils developed from fine-textured slack water deposits in low positions are often poorly or very poorly drained. Deposits of fine materials on the slightly higher stream terraces are typically somewhat poorly drained to moderately well drained. Layers of contrasting materials in the alluvium cause fluctuating water tables and often result in moderately well drained or somewhat poorly drained soils.

Time

Time is needed for changes to take place in the parent material. Because of other soil-forming factors, however, soils that formed in the same type of parent material and for the same amount of time may not be equally developed. Soils that formed in weather-resistant parent material do not develop as rapidly as soils that form in parent material that is less resistant to weathering. Soils on flood plains commonly have weakly defined layers because they are subject to the constant deposition of sediment.

Processes of Soil Horizon Differentiation

Several processes are involved in the formation of soil horizons. Among these are the accumulation of organic matter, the leaching of soluble salts, the reduction and transfer of iron, the formation of soil structure, and the formation and translocation of clay minerals. These processes occur continually and simultaneously. They have been taking place for thousands of years.

Soils that have distinct subsoil horizons were leached of some of the lime and soluble salts before the clay minerals moved downward. Some of the factors that affect this leaching are the kinds of salts originally present, the depth to which the soil solution percolates, and the texture of the soil profile.

In the Tidewater region of the Coastal Plain, moderately well drained soils have a reddish brown to yellowish brown subsoil. These colors are caused mainly by thin coatings of iron oxide on sand and silt grains, but in some soils the colors are inherited from the materials in which the soils formed. The structure in these soils is weak to strong subangular blocky, and the subsoil contains more clay than the surface layer.

The reduction and transfer of iron, called gleying, is associated mainly with wet, poorly drained soils. Moderately well drained and somewhat poorly drained soils have red, yellowish red, and yellowish brown iron and manganese accumulations and gray iron and manganese depletions. This indicates the segregation of iron or manganese, or both, due to a fluctuating water table. In poorly drained and very poorly drained soils, the subsoil and underlying material are gray. This indicates the reduction and transfer of iron or manganese, or both, in solution (Vepraskas, 1992).

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Glossary

Many of the terms relating to landforms, geology, and geomorphology are defined in more detail in the "National Soil Survey Handbook" (available in local offices of the Natural Resources Conservation Service or on the Internet).

ABC soil. A soil having an A, a B, and a C horizon.

AC soil. A soil having only an A and a C horizon. Commonly, such soil formed in recent alluvium or on steep, rocky slopes.

Aeration, soil. The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil. Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alluvial fan. A low, outspread mass of loose materials and/or rock material, commonly with gentle slopes. It is shaped like an open fan or a segment of a cone. The material was deposited by a stream at the place where it issues from a narrow mountain valley or upland valley or where a tributary stream is near or at its junction with the main stream. The fan is steepest near its apex, which points upstream, and slopes gently and convexly outward (downstream) with a gradual decrease in gradient.

Alluvium. Unconsolidated material, such as gravel, sand, silt, clay, and various mixtures of these, deposited on land by running water.

Alpha,alpha-dipyridyl. A compound that when dissolved in ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction implies reducing conditions and the likely presence of redoximorphic features.

Aquic conditions. Current soil wetness characterized by saturation, reduction, and redoximorphic features.

Argillic horizon. A subsoil horizon characterized by an accumulation of illuvial clay.

Aspect. The direction toward which a slope faces. Also called slope aspect.

Association, soil. A group of soils or miscellaneous areas geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low	0 to 3
Low	3 to 6
Moderate	6 to 9
High	9 to 12
Very high	more than 12

Backslope. The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.

Backswamp. A flood-plain landform. Extensive, marshy or swampy, depressed areas of flood plains between natural levees and valley sides or terraces.

Basal area. The area of a cross section of a tree, generally referring to the section at breast height and measured outside the bark. It is a measure of stand density, commonly expressed in square feet.

Base saturation. The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

Base slope (geomorphology). A geomorphic component of hills consisting of the concave to linear (perpendicular to the contour) slope that, regardless of the lateral shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).

Bedding plane. A planar or nearly planar bedding surface that visibly separates each successive layer of stratified sediment or rock (of the same or different lithology) from the preceding or following layer; a plane of deposition. It commonly marks a change in the circumstances of deposition and may show a parting, a color difference, a change in particle size, or various combinations of these. The term is commonly applied to any bedding surface, even one that is conspicuously bent or deformed by folding.

Bedding system. A drainage system made by plowing, grading, or otherwise shaping the surface of a flat field. It consists of a series of low ridges separated by shallow, parallel dead furrows.

Bench terrace. A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.

Blowout. A saucer-, cup-, or trough-shaped depression formed by wind erosion on a preexisting dune or other sand deposit, especially in an area of shifting sand or loose soil or where protective vegetation is disturbed or destroyed; the adjoining accumulation of sand derived from the depression, where recognizable, is commonly included. Blowouts are commonly small.

Borrow pit. An open excavation from which the soil and underlying material have been removed, generally for use in construction. Borrow pits support few or no plants without major reclamation. Areas identified on the detailed soil maps by a special symbol typically are less than 3 acres in size.

Bottom land. An informal term loosely applied to various portions of a flood plain.

Breast height. An average height of 4.5 feet above the ground surface; the point on a tree where diameter measurements are ordinarily taken.

Brush management. Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.

California bearing ratio (CBR). The load-supporting capacity of a soil as compared to that of standard crushed limestone, expressed as a ratio. First standardized in California. A soil having a CBR of 16 supports 16 percent of the load that would be supported by standard crushed limestone, per unit area, with the same degree of distortion.

Canopy. The leafy crown of trees or shrubs. (See Crown.)

Capillary water. Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

Catena. A sequence, or “chain,” of soils on a landscape that formed in similar kinds of parent material and under similar climatic conditions but that have different characteristics as a result of differences in relief and drainage.

Cation. An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity. The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

Chemical treatment. Control of unwanted vegetation through the use of chemicals.

Chiseling. Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay depletions. See Redoximorphic features.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Claypan. A dense, compact subsoil layer that contains much more clay than the overlying materials, from which it is separated by a sharply defined boundary. The layer restricts the downward movement of water through the soil. A claypan is commonly hard when dry and plastic and sticky when wet.

Climax plant community. The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.

Coarse textured soil. Sand or loamy sand.

COLE (coefficient of linear extensibility). See Linear extensibility.

Complex, soil. A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Concretions. See Redoximorphic features.

Conservation cropping system. Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

Conservation tillage. A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil. Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the “Soil Survey Manual.”

Contour stripcropping. Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Corrosion (geomorphology). A process of erosion whereby rocks and soil are removed or worn away by natural chemical processes, especially by the solvent action of running water, but also by other reactions, such as hydrolysis, hydration, carbonation, and oxidation.

Corrosion (soil survey interpretations). Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Crop residue management. Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Cropping system. Growing crops according to a planned system of rotation and management practices.

Crown. The upper part of a tree or shrub, including the living branches and their foliage.

Culmination of the mean annual increment (CMAI). The average annual increase per acre in the volume of a stand. Computed by dividing the total volume of the stand by its age. As the stand increases in age, the mean annual increment continues to increase until mortality begins to reduce the rate of increase. The point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Deferred grazing. Postponing grazing or resting grazing land for a prescribed period.

Delta. A body of alluvium having a surface that is fan shaped and nearly flat; deposited at or near the mouth of a river or stream where it enters a body of relatively quiet water, generally a sea or lake.

Dense layer (in tables). A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

Depth, soil. Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained,* and *very poorly drained*. These classes are defined in the “Soil Survey Manual.”

Drainage, surface. Runoff, or surface flow of water, from an area.

Drainageway. A general term for a course or channel along which water moves in draining an area. A term restricted to relatively small, linear depressions that at some time move concentrated water and either do not have a defined channel or have only a small defined channel.

Duff. A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

Dune. A low mound, ridge, bank, or hill of loose, windblown granular material (generally sand), either barren and capable of movement from place to place or covered and stabilized with vegetation but retaining its characteristic shape.

Earthy fill. See Mine spoil.

Ecological site. An area where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. An ecological site is the product of all the environmental factors responsible for its development. It is typified by an association of species that differ from those on other ecological sites in kind and/or proportion of species or in total production.

Eluviation. The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

Endosaturation. A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

Eolian deposit. Sand-, silt-, or clay-sized clastic material transported and deposited primarily by wind, commonly in the form of a dune or a sheet of sand or loess.

Ephemeral stream. A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

Episaturation. A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Erosion surface. A land surface shaped by the action of erosion, especially by running water.

Escarpment. A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Most commonly applied to cliffs produced by differential erosion. Synonym: scarp.

Fallow. Cropland left idle in order to restore productivity through accumulation of moisture. Summer fallow is common in regions of limited rainfall where cereal grain is grown. The soil is tilled for at least one growing season for weed control and decomposition of plant residue.

Fan remnant. A general term for landforms that are the remaining parts of older fan landforms, such as alluvial fans, that have been either dissected or partially buried.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fibric soil material (peat). The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity*.

Fill slope. A sloping surface consisting of excavated soil material from a road cut. It commonly is on the downhill side of the road.

Fine textured soil. Sandy clay, silty clay, or clay.

Firebreak. An area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of firefighters and equipment. Designated roads also serve as firebreaks.

First bottom. An obsolete, informal term loosely applied to the lowest flood-plain steps that are subject to regular flooding.

Flood plain. The nearly level plain that borders a stream and is subject to flooding unless protected artificially.

Flood-plain landforms. A variety of constructional and erosional features produced by stream channel migration and flooding. Examples include backswamps, flood-plain splays, meanders, meander belts, meander scrolls, oxbow lakes, and natural levees.

Flood-plain splay. A fan-shaped deposit or other outspread deposit formed where an overloaded stream breaks through a levee (natural or artificial) and deposits its material (commonly coarse grained) on the flood plain.

Flood-plain step. An essentially flat, terrace-like alluvial surface within a valley that is frequently covered by floodwater from the present stream; any approximately horizontal surface still actively modified by fluvial scour and/or deposition. May occur individually or as a series of steps.

Fluvial. Of or pertaining to rivers or streams; produced by stream or river action.

Forb. Any herbaceous plant not a grass or a sedge.

Forest cover. All trees and other woody plants (underbrush) covering the ground in a forest.

Forest type. A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

Genesis, soil. The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

Grassed waterway. A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Green manure crop (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

Ground water. Water filling all the unblocked pores of the material below the water table.

Gully. A small channel with steep sides caused by erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Hard to reclaim (in tables). Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Head slope (geomorphology). A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.

Hemic soil material (mucky peat). Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

High-residue crops. Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the “Soil Survey Manual.” The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue.

L horizon.—A layer of organic and mineral limnic materials, including coprogenous earth (sedimentary peat), diatomaceous earth, and marl.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon.—Soft, consolidated bedrock beneath the soil.

R layer.—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties include depth to a seasonal high water table, the infiltration rate, and depth to a layer that significantly restricts the downward movement of water. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Increasers. Species in the climax vegetation that increase in amount as the more desirable plants are reduced by close grazing. Increasers commonly are the shorter plants and the less palatable to livestock.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity. The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2	very low
0.2 to 0.4	low
0.4 to 0.75	moderately low
0.75 to 1.25	moderate
1.25 to 1.75	moderately high
1.75 to 2.5	high
More than 2.5	very high

Interfluve. A landform composed of the relatively undissected upland or ridge between two adjacent valleys containing streams flowing in the same general direction. An elevated area between two drainageways that sheds water to those drainageways.

Interfluve (geomorphology). A geomorphic component of hills consisting of the uppermost, comparatively level or gently sloping area of a hill; shoulders of backwearing hillslopes can narrow the upland or can merge, resulting in a strongly convex shape.

Intermittent stream. A stream, or reach of a stream, that does not flow year-round but that is commonly dry for 3 or more months out of 12 and whose channel is generally below the local water table. It flows only during wet periods or when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Iron depletions. See Redoximorphic features.

Irrigation. Application of water to soils to assist in production of crops. Methods of irrigation are:

Basin.—Water is applied rapidly to nearly level plains surrounded by levees or dikes.

Border.—Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

Controlled flooding.—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

Corrugation.—Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

Drip (or trickle).—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

Furrow.—Water is applied in small ditches made by cultivation implements. Furrows are used for tree and row crops.

Sprinkler.—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Subirrigation.—Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

Wild flooding.—Water, released at high points, is allowed to flow onto an area without controlled distribution.

Ksat. See Saturated hydraulic conductivity.

Leaching. The removal of soluble material from soil or other material by percolating water.

Linear extensibility. Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at $^1/_3$- or $^1/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Loess. Material transported and deposited by wind and consisting dominantly of silt-sized particles.

Low strength. The soil is not strong enough to support loads.

Low-residue crops. Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

Masses. See Redoximorphic features.

Meander belt. The zone within which migration of a meandering channel occurs; the flood-plain area included between two imaginary lines drawn tangential to the outer bends of active channel loops.

Mechanical treatment. Use of mechanical equipment for seeding, brush management, and other management practices.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Mine spoil. An accumulation of displaced earthy material, rock, or other waste material removed during mining or excavation. Also called earthy fill.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage. Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area. A kind of map unit that has little or no natural soil and supports little or no vegetation.

Moderately coarse textured soil. Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately fine textured soil. Clay loam, sandy clay loam, or silty clay loam.

Mollic epipedon. A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil. Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few, common,* and *many;* size—*fine, medium,* and *coarse;* and contrast—*faint, distinct,* and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium,* from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse,* more than 15 millimeters (about 0.6 inch).

Muck. Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

Munsell notation. A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

Neutral soil. A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

Nodules. See Redoximorphic features.

Nutrient, plant. Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter. Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low	less than 0.5 percent
Low	0.5 to 1.0 percent
Moderately low	1.0 to 2.0 percent
Moderate	2.0 to 4.0 percent
High	4.0 to 8.0 percent
Very high	more than 8.0 percent

Pan. A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan, fragipan, claypan, plowpan,* and *traffic pan*.

Parent material. The unconsolidated organic and mineral material in which soil forms.

Peat. Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. (See Fibric soil material.)

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedon. The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation. The movement of water through the soil.

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plowpan. A compacted layer formed in the soil directly below the plowed layer.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poorly graded. Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

Pore linings. See Redoximorphic features.

Potential native plant community. See Climax plant community.

Potential rooting depth (effective rooting depth). Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

Prescribed burning. Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Proper grazing use. Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed as pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Redoximorphic concentrations. See Redoximorphic features.

Redoximorphic depletions. See Redoximorphic features.

Redoximorphic features. Redoximorphic features are associated with wetness and result from alternating periods of reduction and oxidation of iron and manganese compounds in the soil. Reduction occurs during saturation with water, and oxidation occurs when the soil is not saturated. Characteristic color patterns are created by these processes. The reduced iron and manganese ions may be removed from a soil if vertical or lateral fluxes of water occur, in which case there is no iron or manganese precipitation in that soil. Wherever the iron and manganese are oxidized and precipitated, they form either soft masses or hard concretions or nodules. Movement of iron and manganese as a result of redoximorphic processes in a soil may result in redoximorphic features that are defined as follows:

1. Redoximorphic concentrations.—These are zones of apparent accumulation of iron-manganese oxides, including:

   A. Nodules and concretions, which are cemented bodies that can be removed from the soil intact. Concretions are distinguished from nodules on the basis of internal organization. A concretion typically has concentric layers that are visible to the naked eye. Nodules do not have visible organized internal structure; *and*

   B. Masses, which are noncemented concentrations of substances within the soil matrix; *and*

   C. Pore linings, i.e., zones of accumulation along pores that may be either coatings on pore surfaces or impregnations from the matrix adjacent to the pores.

2. Redoximorphic depletions.—These are zones of low chroma (chromas less than those in the matrix) where either iron-manganese oxides alone or both iron-manganese oxides and clay have been stripped out, including:

   A. Iron depletions, i.e., zones that contain low amounts of iron and manganese oxides but have a clay content similar to that of the adjacent matrix; *and*

B. Clay depletions, i.e., zones that contain low amounts of iron, manganese, and clay (often referred to as silt coatings or skeletans).

3. Reduced matrix.—This is a soil matrix that has low chroma *in situ* but undergoes a change in hue or chroma within 30 minutes after the soil material has been exposed to air.

Reduced matrix. See Redoximorphic features.

Relief. The relative difference in elevation between the upland summits and the lowlands or valleys of a given region.

Rill. A very small, steep-sided channel resulting from erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. A rill generally is not an obstacle to wheeled vehicles and is shallow enough to be smoothed over by ordinary tillage.

Riser. The vertical or steep side slope (e.g., escarpment) of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural, steplike landforms, such as successive stream terraces.

Road cut. A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

Root zone. The part of the soil that can be penetrated by plant roots.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Sand. As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sandy spot. An area where the surface layer is loamy fine sand or coarser in a map unit in which the dominant soil or soils have a surface layer that is very fine sandy loam or finer. Excluded are areas where the textural classes are adjoining, such as an area of loamy sand in a map unit in which the dominant soil or soils have a surface layer of sandy loam. Areas identified on the detailed soil maps by a special symbol typically are less than 2 acres in size.

Sapric soil material (muck). The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

Saturated hydraulic conductivity (Ksat). The ease with which pores of a saturated soil transmit water. Formally, the proportionality coefficient that expresses the relationship of the rate of water movement to hydraulic gradient in Darcy's Law, a law that describes the rate of water movement through porous media. Commonly abbreviated as "Ksat." Terms describing saturated hydraulic conductivity are *very high*, 100 or more micrometers per second (14.17 or more inches per hour); *high*, 10 to 100 micrometers per second (1.417 to 14.17 inches per hour); *moderately high*, 1 to 10 micrometers per second (0.1417 inch to 1.417 inches per hour); *moderately low*, 0.1 to 1 micrometer per second (0.01417 to 0.1417 inch per hour); *low*, 0.01 to 0.1 micrometer per second (0.001417 to 0.01417 inch per hour); and *very low*, less than 0.01 micrometer per second (less than 0.001417 inch per hour). To convert inches per hour to micrometers per second, multiply inches per hour by 7.0572. To convert micrometers per second to inches per hour, multiply micrometers per second by 0.1417.

Saturation. Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Sequum. A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Series, soil. A group of soils that have profiles that are almost alike. All the soils of a given series have horizons that are similar in composition, thickness, and arrangement.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Short, steep slope. An area of soil that is at least two slope classes steeper than the named soil or soils in the surrounding map unit. Areas identified on the detailed soil maps by a special symbol typically are long, narrow bands that are less than 2 acres in size.

Shoulder. The convex, erosional surface near the top of a hillslope. A shoulder is a transition from summit to backslope.

Shrink-swell (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Side slope (geomorphology). A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel. Side slopes are dominantly colluvium and slope-wash sediments.

Silica. A combination of silicon and oxygen. The mineral form is called quartz.

Silica-sesquioxide ratio. The ratio of the number of molecules of silica to the number of molecules of alumina and iron oxide. The more highly weathered soils or their clay fractions in warm-temperate, humid regions, and especially those in the tropics, generally have a low ratio.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Similar soils. Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

Slickensides (pedogenic). Grooved, striated, and/or glossy (shiny) slip faces on structural peds, such as wedges; produced by shrink-swell processes, most commonly in soils that have a high content of expansive clays.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance. In this survey, there is only one class of slope. It is nearly level, which is from 0 to 2 percent.

Slow refill (in tables). The slow filling of ponds, resulting from restricted water transmission in the soil.

Slow water movement (in tables). Restricted downward movement of water through the soil. See Saturated hydraulic conductivity.

Sodium adsorption ratio (SAR). A measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief and by the passage of time.

Soil separates. Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

Stream terrace. One of a series of platforms in a stream valley, flanking and more or less parallel to the stream channel, originally formed near the level of the stream; represents the remnants of an abandoned flood plain, stream bed, or valley floor produced during a former state of fluvial erosion or deposition.

Stripcropping. Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Stubble mulch. Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Substratum. The part of the soil below the solum.

Subsurface layer. Any surface soil horizon (A, E, AB, or EB) below the surface layer.

Summer fallow. The tillage of uncropped land during the summer to control weeds and allow storage of moisture in the soil for the growth of a later crop. A practice common in semiarid regions, where annual precipitation is not enough to produce a crop every year. Summer fallow is frequently practiced before planting winter grain.

Summit. The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the “plow layer,” or the “Ap horizon.”

Surface soil. The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

Taxadjuncts. Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior. Soils are recognized as taxadjuncts only when one or more of their characteristics are slightly outside the range defined for the family of the series for which the soils are named.

Terrace (conservation). An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geomorphology). A steplike surface, bordering a valley floor or shoreline, that represents the former position of a flood plain, lake, or seashore. The term is usually applied both to the relatively flat summit surface (tread) that was cut or built by stream or wave action and to the steeper descending slope (scarp or riser) that has graded to a lower base level of erosion.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."

Thin layer (in tables). Otherwise suitable soil material that is too thin for the specified use.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Trace elements. Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Tread. The flat to gently sloping, topmost, laterally extensive slope of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural steplike landforms, such as successive stream terraces.

Upland. An informal, general term for the higher ground of a region, in contrast with a low-lying adjacent area, such as a valley or plain, or for land at a higher elevation than the flood plain or low stream terrace; land above the footslope zone of the hillslope continuum.

Variegation. Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

Weathering. All physical disintegration, chemical decomposition, and biologically induced changes in rocks or other deposits at or near the earth's surface by atmospheric or biologic agents or by circulating surface waters but involving essentially no transport of the altered material.

Well graded. Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wet spot. An area of somewhat poorly drained to very poorly drained soils that are at least two drainage classes wetter than the named soil or soils in the surrounding map unit. Areas identified on the detailed soil maps by a special symbol typically are less than 2 acres in size.

Wilting point (or permanent wilting point). The moisture content of soil, on an ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Windthrow. The uprooting and tipping over of trees by the wind.

Tables

Table 1.—Temperature and Precipitation

(Recorded in the period 1971 2000 at Elizabeth City, NC)

Month	Temperature (Degrees F.)						Precipitation (Inches)				
				2 yrs in 10 will have				2 yrs in 10 will have			
	Avg daily max	Avg daily min	Avg	Max temp. >than	Min temp. <than	Avg # of grow deg days*	Avg	Less than	More than	Avg # of days w/.1 or more	Avg total snow fall
January	52.3	32.3	42.3	73	9	34	4.43	2.77	5.88	7	0.1
February	55.2	34.0	44.6	78	15	51	3.26	1.97	4.36	6	0.0
March	63.1	40.6	51.8	84	22	143	4.03	2.35	5.49	7	0.0
April	71.9	48.0	60.0	90	26	301	3.07	1.69	4.37	5	0.0
May	78.7	57.1	67.9	94	39	537	4.14	2.21	5.98	7	0.0
June	85.3	65.6	75.5	97	49	754	4.31	2.49	5.94	6	0.0
July	89.0	70.3	79.7	99	55	911	5.59	2.66	8.38	7	0.0
August	87.5	68.7	78.1	98	55	866	5.47	3.10	7.44	6	0.0
September	82.7	63.3	73.0	94	47	684	4.65	1.69	7.51	5	0.0
October	73.3	51.7	62.5	88	32	390	3.35	1.51	4.86	4	0.0
November	64.8	43.2	54.0	82	25	178	2.97	1.76	4.06	5	0.0
December	56.0	35.6	45.8	76	15	62	3.07	1.65	4.47	6	0.0
Yearly :											
Average	71.6	50.9	61.3								
Extreme	103	2		100	8						
Total						4911	48.35	40.73	54.60	71	0.1

Average # of days per year with at least 1 inch of snow on the ground: 0

*A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (Threshold: 50.0 deg. F)

Table 2.—Freeze Dates in Spring and Fall

(Recorded in the period 1971-2000 at Elizabeth City, NC)

Probability	Temperature 24F or lower	28F or lower	32F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	March 10	March 31	April 19
2 year in 10 later than--	March 4	March 25	April 13
5 year in 10 later than--	February 22	March 14	April 1
First freezing temperature in fall:			
1 yr in 10 earlier than--	November 24	November 6	October 24
2 yr in 10 earlier than--	December 2	November 13	October 30
5 yr in 10 earlier than--	December 16	November 27	November 9

Table 3.—Growing Season

(Recorded in the period 1971-2000 at Elizabeth City, NC)

Probability	Daily Minimum Temperature # days > 24F	# days > 28F	# days > 32F
9 years in 10	271	234	205
8 years in 10	280	242	211
5 years in 10	297	257	223
2 years in 10	314	272	234
1 year in 10	322	279	240

Table 4.—Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
ApA	Arapahoe fine sandy loam, 0 to 2 percent slopes	701	0.4
BaA	Barclay silt loam, 0 to 2 percent slopes	1,235	0.7
BcA	Belhaven muck, 0 to 2 percent slopes	10,512	5.7
BeA	Bertie fine sandy loam, 0 to 2 percent slopes	4,494	2.4
BgA	Bertie-Urban land complex, 0 to 2 percent slopes	305	0.2
BoA	Bojac loamy fine sand, 0 to 2 percent slopes	121	*
CaA	Cape Lookout silt loam, 0 to 2 percent slopes	5,294	2.9
CfA	Cape Lookout mucky silt loam, 0 to 2 percent slopes	2,035	1.1
ChA	Chapanoke silt loam, 0 to 2 percent slopes	4,046	2.2
CsA	Chesapeake fine sandy loam, 0 to 2 percent slopes	148	*
CwA	Chowan silt loam, 0 to 2 percent slopes, frequently flooded	4,337	2.3
DeA	Deloss mucky fine sandy loam, 0 to 2 percent slopes	1,012	0.5
DoA	Dorovan muck, 0 to 2 percent slopes, frequently flooded	7,762	4.2
DrA	Dragston fine sandy loam, 0 to 2 percent slopes	2,934	1.6
DuA	Dragston-Urban land complex, 0 to 2 percent slopes	209	0.1
GeA	Gertie fine sandy loam, 0 to 2 percent slopes	3,521	1.9
GrA	Gertie silt loam, 0 to 2 percent slopes	32,520	17.6
GtA	Gertie silt loam, 0 to 2 percent slopes, frequently flooded	1,012	0.5
HyA	Hyde mucky silt loam, 0 to 2 percent slopes	7,697	4.2
MuA	Munden fine sandy loam, 0 to 2 percent slopes	1,074	0.6
NmA	Nimmo fine sandy loam, 0 to 2 percent slopes	1,228	0.7
NxA	Nixonton-Yeopim complex, 0 to 2 percent slopes	443	0.2
PaA	Pasquotank silt loam, 0 to 2 percent slopes	2,334	1.3
PeA	Perquimans silt loam, 0 to 2 percent slopes	11,935	6.4
PgA	Pettigrew muck, 0 to 2 percent slopes	2,017	1.1
PoA	Portsmouth fine sandy loam, 0 to 2 percent slopes	3,116	1.7
PrA	Portsmouth mucky fine sandy loam, 0 to 2 percent slopes	1,012	0.5
PuA	Pungo woody muck, 0 to 2 percent slopes	4,353	2.4
RoA	Roper muck, 0 to 2 percent slopes	1,658	0.9
SeA	Seabrook loamy sand, 0 to 2 percent slopes	575	0.3
TeA	Tetotum fine sandy loam, 0 to 2 percent slopes	1,511	0.8
TmA	Tetotum-Urban land complex, 0 to 2 percent slopes	75	*
ToA	Tomotley fine sandy loam, 0 to 2 percent slopes	9,496	5.1
TuA	Tomotley-Portsmouth-Urban land complex, 0 to 2 percent slopes	266	0.1
UdA	Udorthents loamy, 0 to 2 percent slopes	1,582	0.9
Ur	Urban land	1,164	0.6
W	Water	40,897	22.1
WaA	Wahee silt loam, 0 to 2 percent slopes	1,371	0.7
WcA	Wasda-Conaby complex, 0 to 2 percent slopes	7,298	3.9
WeA	Weeksville loam, 0 to 2 percent slopes	67	*
YeA	Yeopim silt loam, 0 to 2 percent slopes	1,836	1.0
	Total	185,203	100.0

* Less than 0.1 percent.

Table 5a.—Nonirrigated Yields by Map Unit Component (Part 1)

(Yields are those that can be expected under a high level of management. They are for nonirrigated areas. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil.)

Map symbol and soil name	Land capability	Corn	Cotton lint	Grain sorghum	Oats	Irish potatoes
		Bu	Lbs	Bu	Bu	Cwt
ApA:						
Arapahoe, drained-------	3w	139.00	846.00	65.00	102.00	250.00
Arapahoe, undrained-----	6w	---	---	---	---	---
BaA:						
Barclay, drained--------	2w	140.00	800.00	65.00	102.00	285.00
Barclay, undrained------	3w	---	---	---	---	---
BcA:						
Belhaven, drained-------	4w	129.00	797.00	60.00	102.00	---
Belhaven, undrained-----	7w	---	---	---	---	---
BeA:						
Bertie, drained---------	2w	115.00	772.00	55.00	94.00	---
Bertie, undrained-------	3w	---	---	---	---	---
BgA:						
Bertie------------------	3w	---	---	---	---	---
Urban land--------------	8s	---	---	---	---	---
BoA:						
Bojac-------------------	2s	100.00	750.00	45.00	76.00	---
CaA:						
Cape Lookout, drained---	3w	134.00	747.00	65.00	102.00	---
Cape Lookout, undrained-	6w	---	---	---	---	---
CfA:						
Cape Lookout, drained---	3w	134.00	747.00	65.00	102.00	---
Cape Lookout, undrained-	6w	---	---	---	---	---
ChA:						
Chapanoke, drained------	2w	135.00	850.00	65.00	102.00	---
Chapanoke, undrained----	3w	---	---	---	---	---
CsA:						
Chesapeake--------------	1	125.00	875.00	60.00	102.00	---
CwA:						
Chowan, undrained-------	7w	---	---	---	---	---
DeA:						
Deloss, drained---------	3w	134.00	822.00	65.00	102.00	---
Deloss, undrained-------	6w	---	---	---	---	---
DoA:						
Dorovan, undrained------	7w	---	---	---	---	---

Table 5a.—Nonirrigated Yields by Map Unit Component (Part 1)—Continued

Map symbol and soil name	Land capability	Corn	Cotton lint	Grain sorghum	Oats	Irish potatoes
		Bu	Lbs	Bu	Bu	Cwt
DrA:						
Dragston, drained	2w	129.00	797.00	60.00	94.00	---
Dragston, undrained	3w	---	---	---	---	---
DuA:						
Dragston, drained	2w	---	---	---	---	---
Urban land	8s	---	---	---	---	---
GeA:						
Gertie, drained	3w	119.00	747.00	55.00	94.00	---
Gertie, undrained	4w	---	---	---	---	---
GrA:						
Gertie, drained	3w	119.00	747.00	55.00	94.00	---
Gertie, undrained	4w	---	---	---	---	---
GtA:						
Gertie, undrained	4w	---	---	---	---	---
Gertie, drained	3w	119.00	747.00	55.00	94.00	---
HyA:						
Hyde, drained	3w	159.00	846.00	75.00	110.00	330.00
Hyde, undrained	6w	---	---	---	---	---
MuA:						
Munden	2w	105.00	747.00	50.00	85.00	250.00
NmA:						
Nimmo, drained	3w	129.00	747.00	60.00	94.00	200.00
Nimmo, undrained	4w	---	---	---	---	---
NxA:						
Nixonton	1	130.00	900.00	60.00	102.00	---
Yeopim	2w	130.00	900.00	60.00	102.00	---
PaA:						
Pasquotank, drained	3w	145.00	900.00	70.00	102.00	285.00
Pasquotank, undrained	6w	---	---	---	---	---
PeA:						
Perquimans, drained	3w	139.00	896.00	65.00	102.00	---
Perquimans, undrained	6w	---	---	---	---	---
PgA:						
Pettigrew, drained	3w	139.00	822.00	65.00	102.00	---
Pettigrew, undrained	6w	---	---	---	---	---
PoA:						
Portsmouth, drained	3w	134.00	822.00	65.00	102.00	---
Portsmouth, undrained	6w	---	---	---	---	---

Table 5a.—Nonirrigated Yields by Map Unit Component (Part 1)—Continued

Map symbol and soil name	Land capability	Corn	Cotton lint	Grain sorghum	Oats	Irish potatoes
		Bu	Lbs	Bu	Bu	Cwt
PrA:						
Portsmouth, drained-----	3w	134.00	822.00	65.00	102.00	---
Portsmouth, undrained---	6w	---	---	---	---	---
PuA:						
Pungo, undrained--------	7w	---	---	---	---	---
Pungo, drained----------	4w	100.00	697.00	45.00	68.00	---
RoA:						
Roper, drained----------	3w	150.00	900.00	70.00	102.00	---
Roper, undrained--------	6w	---	---	---	---	---
SeA:						
Seabrook----------------	3s	75.00	600.00	35.00	68.00	---
TeA:						
Tetotum-----------------	2w	130.00	900.00	60.00	102.00	---
TmA:						
Tetotum-----------------	2w	---	---	---	---	---
Urban land--------------	8s	---	---	---	---	---
ToA:						
Tomotley, drained-------	3w	130.00	800.00	60.00	102.00	---
Tomotley, undrained-----	4w	---	---	---	---	---
TuA:						
Tomotley, drained-------	3w	---	---	---	---	---
Portsmouth, drained-----	3w	---	---	---	---	---
Urban land--------------	8s	---	---	---	---	---
UdA:						
Udorthents, loamy-------	7s	---	---	---	---	---
Ur:						
Urban land--------------	8	---	---	---	---	---
WaA:						
Wahee, drained----------	2w	110.00	722.00	50.00	85.00	---
Wahee, undrained--------	3w	---	---	---	---	---
WcA:						
Wasda, drained----------	3w	135.00	825.00	65.00	102.00	---
Conaby, drained---------	3w	129.00	797.00	60.00	102.00	---
Wasda, undrained--------	6w	---	---	---	---	---
Conaby, undrained-------	6w	---	---	---	---	---
WeA:						
Weeksville, drained-----	3w	149.00	896.00	70.00	102.00	285.00
Weeksville, undrained---	6w	---	---	---	---	---

Table 5a.—Nonirrigated Yields by Map Unit Component (Part 1)—Continued

Map symbol and soil name	Land capability	Corn	Cotton lint	Grain sorghum	Oats	Irish potatoes
		Bu	Lbs	Bu	Bu	Cwt
YeA:						
Yeopim-------------------	2w	130.00	900.00	60.00	102.00	---

Table 5b.—Nonirrigated Yields by Map Unit Component (Part 2)

(Yields are those that can be expected under a high level of management. They are for nonirrigated areas. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil.)

Map symbol and soil name	Land capability	Cabbage	Improved bermudagrass	Soybeans	Tall fescue hay	Wheat
		Crates	Tons	Bu	Tons	Bu
ApA:						
Arapahoe, drained-------	3w	350.00	5.00	45.00	4.00	60.00
Arapahoe, undrained-----	6w	---	---	---	---	---
BaA:						
Barclay, drained--------	2w	12.00	---	50.00	4.50	60.00
Barclay, undrained------	3w	---	---	---	---	---
BcA:						
Belhaven, drained-------	4w	---	---	44.00	---	45.00
Belhaven, undrained-----	7w	---	---	---	---	---
BeA:						
Bertie, drained---------	2w	---	5.50	40.00	---	55.00
Bertie, undrained-------	3w	---	---	---	---	---
BgA:						
Bertie------------------	3w	---	---	---	---	---
Urban land--------------	8s	---	---	---	---	---
BoA:						
Bojac-------------------	2s	---	5.50	35.00	3.00	45.00
CaA:						
Cape Lookout, drained---	3w	---	---	45.00	---	60.00
Cape Lookout, undrained-	6w	---	---	---	---	---
CfA:						
Cape Lookout, drained---	3w	---	---	45.00	---	60.00
Cape Lookout, undrained-	6w	---	---	---	---	---
ChA:						
Chapanoke, drained------	2w	350.00	---	45.00	---	60.00
Chapanoke, undrained----	3w	---	---	---	---	---
CsA:						
Chesapeake--------------	1	---	6.50	45.00	4.00	60.00
CwA:						
Chowan, undrained-------	7w	---	---	---	---	---
DeA:						
Deloss, drained---------	3w	350.00		45.00	---	60.00
Deloss, undrained-------	6w	---	---	---	---	---
DoA:						
Dorovan, undrained------	7w	---	---	---	---	---

Table 5b.—Nonirrigated Yields by Map Unit Component (Part 2)—Continued

Map symbol and soil name	Land capability	Cabbage	Improved bermudagrass	Soybeans	Tall fescue hay	Wheat
		Crates	Tons	Bu	Tons	Bu
DrA:						
Dragston, drained-------	2w	---	5.50	40.00	---	55.00
Dragston, undrained-----	3w	---	---	---	---	---
DuA:						
Dragston, drained-------	2w	---	---	---	---	---
Urban land--------------	8s	---	---	---	---	---
GeA:						
Gertie, drained---------	3w	---	---	44.00	---	55.00
Gertie, undrained-------	4w	---	---	---	---	---
GrA:						
Gertie, drained---------	3w	---	---	44.00	---	55.00
Gertie, undrained-------	4w	---	---	---	---	---
GtA:						
Gertie, undrained-------	4w	---	---	---	---	---
Gertie, drained---------	3w	---	---	44.00	---	55.00
HyA:						
Hyde, drained-----------	3w	15.00	---	52.00	---	65.00
Hyde, undrained---------	6w	---	---	---	---	---
MuA:						
Munden------------------	2w	---	---	38.00	---	50.00
NmA:						
Nimmo, drained----------	3w	300.00	4.50	44.00	4.00	55.00
Nimmo, undrained--------	4w	---	---	---	---	---
NxA:						
Nixonton----------------	1	---	---	50.00	---	60.00
Yeopim------------------	2w	---	---	50.00	---	60.00
PaA:						
Pasquotank, drained-----	3w	375.00	---	50.00	4.50	60.00
Pasquotank, undrained---	6w	---	---	---	---	---
PeA:						
Perquimans, drained-----	3w	350.00	4.00	48.00	---	60.00
Perquimans, undrained---	6w	---	---	---	---	---
PgA:						
Pettigrew, drained------	3w	---	---	45.00	---	60.00
Pettigrew, undrained----	6w	---	---	---	---	---
PoA:						
Portsmouth, drained-----	3w	---	---	45.00	---	60.00
Portsmouth, undrained---	6w	---	---	---	---	---

Table 5b.—Nonirrigated Yields by Map Unit Component (Part 2)—Continued

Map symbol and soil name	Land capability	Cabbage	Improved bermudagrass	Soybeans	Tall fescue hay	Wheat
		Crates	Tons	Bu	Tons	Bu
PrA:						
Portsmouth, drained-----	3w	---	---	45.00	---	60.00
Portsmouth, undrained---	6w	---	---	---	---	---
PuA:						
Pungo, undrained--------	7w	---	---	---	---	---
Pungo, drained----------	4w	---	---	35.00	---	40.00
RoA:						
Roper, drained----------	3w	---	3.50	50.00	---	60.00
Roper, undrained--------	6w	---	---	---	---	---
SeA:						
Seabrook----------------	3s	---	5.00	30.00	1.50	40.00
TeA:						
Tetotum-----------------	2w	---	6.50	50.00	---	60.00
TmA:						
Tetotum-----------------	2w	---	---	---	---	---
Urban land--------------	8s	---	---	---	---	---
ToA:						
Tomotley, drained-------	3w	350.00	---	45.00	---	60.00
Tomotley, undrained-----	4w	---	---	---	---	---
TuA:						
Tomotley, drained-------	3w	---	---	---	---	---
Portsmouth, drained-----	3w	---	---	---	---	---
Urban land--------------	8s	---	---	---	---	---
UdA:						
Udorthents, loamy-------	7s	---	---	---	---	---
Ur:						
Urban land--------------	8	---	---	---	---	---
WaA:						
Wahee, drained----------	2w	---	5.00	42.00	4.00	49.80
Wahee, undrained--------	3w	---	---	---	---	---
WcA:						
Wasda, drained----------	3w	---	---	45.00	---	60.00
Conaby, drained---------	3w	---	---	44.00	---	60.00
Wasda, undrained--------	6w	---	---	---	---	---
Conaby, undrained-------	6w	---	---	---	---	---
WeA:						
Weeksville, drained-----	3w	375.00	---	50.00	---	60.00
Weeksville, undrained---	6w	---	---	---	---	---

Table 5b.—Nonirrigated Yields by Map Unit Component (Part 2)—Continued

Map symbol and soil name	Land capability	Cabbage	Improved bermudagrass	Soybeans	Tall fescue hay	Wheat
		Crates	Tons	Bu	Tons	Bu
YeA:						
Yeopim------------------	2w	---	6.50	50.00	---	60.00

Table 6.—Prime Farmland and Other Important Farmlands

(Only the soils considered prime or important farmland are listed. Urban or built-up areas of the soils listed are not considered prime or important farmland. If a soil is prime or important farmland only under certain conditions, the conditions are specified in parentheses after the soil name.)

Map symbol	Map unit name	Farmland Classification
CsA	Chesapeake fine sandy loam, 0 to 2 percent slopes	Prime farmland in all areas
NxA	Nixonton-Yeopim complex, 0 to 2 percent slopes	Prime farmland in all areas
TeA	Tetotum fine sandy loam, 0 to 2 percent slopes	Prime farmland in all areas
YeA	Yeopim silt loam, 0 to 2 percent slopes	Prime farmland in all areas
BoA	Bojac loamy fine sand, 0 to 2 percent slopes	Farmland of statewide importance
CaA	Cape Lookout silt loam, 0 to 2 percent slopes	Farmland of statewide importance
CfA	Cape Lookout mucky silt loam, 0 to 2 percent slopes	Farmland of statewide importance
DrA	Dragston fine sandy loam, 0 to 2 percent slopes	Farmland of statewide importance
GeA	Gertie fine sandy loam, 0 to 2 percent slopes	Farmland of statewide importance
GrA	Gertie silt loam, 0 to 2 percent slopes	Farmland of statewide importance
MuA	Munden fine sandy loam, 0 to 2 percent slopes	Farmland of statewide importance
NmA	Nimmo fine sandy loam, 0 to 2 percent slopes	Farmland of statewide importance
WaA	Wahee silt loam, 0 to 2 percent slopes	Farmland of statewide importance
ApA	Arapahoe fine sandy loam, 0 to 2 percent slopes	Prime farmland if drained
BaA	Barclay silt loam, 0 to 2 percent slopes	Prime farmland if drained
BeA	Bertie fine sandy loam, 0 to 2 percent slopes	Prime farmland if drained
ChA	Chapanoke silt loam, 0 to 2 percent slopes	Prime farmland if drained
DeA	Deloss mucky fine sandy loam, 0 to 2 percent slopes	Prime farmland if drained
HyA	Hyde mucky silt loam, 0 to 2 percent slopes	Prime farmland if drained
PaA	Pasquotank silt loam, 0 to 2 percent slopes	Prime farmland if drained
PeA	Perquimans silt loam, 0 to 2 percent slopes	Prime farmland if drained
PoA	Portsmouth fine sandy loam, 0 to 2 percent slopes	Prime farmland if drained
PrA	Portsmouth mucky fine sandy loam, 0 to 2 percent slopes	Prime farmland if drained
RoA	Roper muck, 0 to 2 percent slopes	Prime farmland if drained
ToA	Tomotley fine sandy loam, 0 to 2 percent slopes	Prime farmland if drained
WcA	Wasda-Conaby complex, 0 to 2 percent slopes	Prime farmland if drained
WeA	Weeksville loam, 0 to 2 percent slopes	Prime farmland if drained

Table 7a.—Agricultural Waste Management (Part 1)

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Application of manure and food-processing waste		Application of sewage sludge	
	Rating class and limiting features	Value	Rating class and limiting features	Value
ApA:				
Arapahoe	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Leaching	0.70	Too acid	0.85
	Too acid	0.27		
BaA:				
Barclay	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too acid	0.02	Too acid	0.07
BcA:				
Belhaven	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Runoff	0.40	Too acid	0.96
	Too acid	0.37	Slow water movement	0.22
	Slow water movement	0.30		
BeA:				
Bertie	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Filtering capacity	0.99	Filtering capacity	0.99
	Too acid	0.02	Too acid	0.07
BgA:				
Bertie	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Filtering capacity	0.99	Filtering capacity	0.99
	Too acid	0.02	Too acid	0.07
Urban land	Not rated		Not rated	
BoA:				
Bojac	Very limited		Very limited	
	Filtering capacity	0.99	Filtering capacity	0.99
	Leaching	0.45		

Table 7a.—Agricultural Waste Management (Part 1)—Continued

Map symbol and soil name	Application of manure and food-processing waste		Application of sewage sludge	
	Rating class and limiting features	Value	Rating class and limiting features	Value
CaA:				
Cape Lookout	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slow water movement	1.00
	Leaching	0.50	Too acid	0.42
	Too acid	0.11		
CfA:				
Cape Lookout	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slow water movement	1.00
	Leaching	0.50	Too acid	0.42
	Too acid	0.11		
ChA:				
Chapanoke	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Leaching	0.50	Too acid	0.42
	Slow water movement	0.30	Slow water movement	0.22
	Too acid	0.11		
CsA:				
Chesapeake	Somewhat limited		Somewhat limited	
	Too acid	0.11	Too acid	0.42
CwA:				
Chowan	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	1.00
	Runoff	0.40	Too acid	0.42
	Too acid	0.11		
DeA:				
Deloss	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Leaching	0.70	Too acid	1.00
	Too acid	0.62		
DoA:				
Dorovan	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	1.00
	Too acid	0.98	Too acid	1.00
	Runoff	0.40		

Table 7a.—Agricultural Waste Management (Part 1)—Continued

Map symbol and soil name	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
DrA:				
Dragston	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Filtering capacity	0.99	Filtering capacity	0.99
	Too acid	0.11	Too acid	0.42
DuA:				
Dragston	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Filtering capacity	0.99	Filtering capacity	0.99
	Too acid	0.11	Too acid	0.42
Urban land	Not rated		Not rated	
GeA:				
Gertie	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slow water movement	1.00
	Runoff	0.40	Too acid	0.96
	Too acid	0.37		
GrA:				
Gertie	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slow water movement	1.00
	Runoff	0.40	Too acid	0.96
	Too acid	0.37		
GtA:				
Gertie	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Flooding	1.00
	Flooding	1.00	Slow water movement	1.00
	Too acid	0.73	Too acid	1.00
	Runoff	0.40		
HyA:				
Hyde	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too acid	0.86	Too acid	1.00
	Leaching	0.50	Slow water movement	0.37
	Slow water movement	0.50		

Table 7a.—Agricultural Waste Management (Part 1)—Continued

Map symbol and soil name	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
MuA:				
Munden	Very limited		Very limited	
	Depth to saturated zone	0.99	Depth to saturated zone	0.99
	Too acid	0.02	Too acid	0.07
NmA:				
Nimmo	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Leaching	0.70	Too acid	0.96
	Too acid	0.37		
NxA:				
Nixonton	Somewhat limited		Somewhat limited	
	Slow water movement	0.30	Too acid	0.42
	Too acid	0.11	Slow water movement	0.22
Yeopim	Very limited		Very limited	
	Depth to saturated zone	0.99	Depth to saturated zone	0.99
	Slow water movement	0.30	Slow water movement	0.22
	Too acid	0.02	Too acid	0.07
PaA:				
Pasquotank	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Leaching	0.70	Too acid	0.85
	Too acid	0.27		
PeA:				
Perquimans	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Leaching	0.50	Slow water movement	0.22
	Slow water movement	0.30	Too acid	0.07
	Too acid	0.02		
PgA:				
Pettigrew	Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too acid	0.78	Too acid	1.00
	Runoff	0.40		

Table 7a.—Agricultural Waste Management (Part 1)—Continued

Map symbol and soil name	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
PoA:				
Portsmouth----------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Leaching	0.70	Too acid	0.42
	Too acid	0.11	Strongly contrasting textural stratification	0.01
	Strongly contrasting textural stratification	0.01		
PrA:				
Portsmouth----------	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slow water movement	1.00
	Too acid	0.78	Too acid	1.00
	Leaching	0.70		
PuA:				
Pungo---------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too acid	1.00	Too acid	1.00
	Runoff	0.40		
RoA:				
Roper---------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Leaching	0.50	Too acid	0.96
	Too acid	0.37	Slow water movement	0.22
	Slow water movement	0.30		
SeA:				
Seabrook------------	Very limited		Very limited	
	Filtering capacity	0.99	Filtering capacity	0.99
	Depth to saturated zone	0.99	Depth to saturated zone	0.99
	Too acid	0.37	Too acid	0.96
	Droughty	0.18	Droughty	0.18
TeA:				
Tetotum-------------	Very limited		Very limited	
	Depth to saturated zone	0.99	Depth to saturated zone	0.99
	Too acid	0.11	Too acid	0.42
TmA:				
Tetotum-------------	Very limited		Very limited	
	Depth to saturated zone	0.99	Depth to saturated zone	0.99
	Too acid	0.11	Too acid	0.42

Table 7a.—Agricultural Waste Management (Part 1)—Continued

Map symbol and soil name	Application of manure and food-processing waste		Application of sewage sludge	
	Rating class and limiting features	Value	Rating class and limiting features	Value
Urban land----------	Not rated		Not rated	
ToA:				
Tomotley------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Leaching	0.70	Too acid	0.21
	Too acid	0.05		
TuA:				
Tomotley------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Leaching	0.70	Too acid	0.21
	Too acid	0.05		
Portsmouth----------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Leaching	0.70	Too acid	0.42
	Too acid	0.11	Strongly contrasting textural stratification	0.01
	Strongly contrasting textural stratification	0.01		
Urban land----------	Not rated		Not rated	
UdA:				
Udorthents, loamy---	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Too acid	0.37	Too acid	0.96
Ur:				
Urban land----------	Not rated		Not rated	
WaA:				
Wahee---------------	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slow water movement	1.00
	Leaching	0.50	Too acid	0.42
	Too acid	0.11		
WcA:				
Wasda---------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Leaching	0.70	Too acid	0.96
	Too acid	0.37	Slow water movement	0.22
	Slow water movement	0.30		

Table 7a.—Agricultural Waste Management (Part 1)—Continued

Map symbol and soil name	Application of manure and food-processing waste		Application of sewage sludge	
	Rating class and limiting features	Value	Rating class and limiting features	Value
Conaby--------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Leaching	0.70	Too acid	1.00
	Too acid	0.62		
WeA:				
Weeksville----------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Leaching	0.70	Too acid	1.00
	Too acid	0.62		
YeA:				
Yeopim--------------	Very limited		Very limited	
	Depth to saturated zone	0.99	Depth to saturated zone	0.99
	Slow water movement	0.30	Slow water movement	0.22
	Too acid	0.02	Too acid	0.07

Table 7b.—Agricultural Waste Management (Part 2)

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Disposal of wastewater by irrigation		Overland flow of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
ApA:				
Arapahoe	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
	Too acid	0.85	Depth to saturated zone	1.00
			Too acid	0.85
BaA:				
Barclay	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too acid	0.07	Seepage	1.00
			Too acid	0.07
BcA:				
Belhaven	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too acid	0.96	Seepage	1.00
	Slow water movement	0.22	Too acid	0.96
BeA:				
Bertie	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
	Filtering capacity	0.99	Depth to saturated zone	1.00
	Too acid	0.07	Too acid	0.07
BgA:				
Bertie	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
	Filtering capacity	0.99	Depth to saturated zone	1.00
	Too acid	0.07	Too acid	0.07
Urban land	Not rated		Not rated	
BoA:				
Bojac	Very limited		Very limited	
	Filtering capacity	0.99	Seepage	1.00
CaA:				
Cape Lookout	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Seepage	1.00
	Too acid	0.42	Too acid	0.42

Table 7b.—Agricultural Waste Management (Part 2)—Continued

Map symbol and soil name	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
CfA:				
Cape Lookout	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Seepage	1.00
	Too acid	0.42	Too acid	0.42
ChA:				
Chapanoke	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too acid	0.42	Seepage	1.00
	Slow water movement	0.22	Too acid	0.42
CsA:				
Chesapeake	Somewhat limited		Very limited	
	Too acid	0.42	Seepage	1.00
			Too acid	0.42
CwA:				
Chowan	Very limited		Very limited	
	Depth to saturated zone	1.00	Flooding	1.00
	Flooding	1.00	Depth to saturated zone	1.00
	Too acid	0.42	Seepage	1.00
			Too acid	0.42
DeA:				
Deloss	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
	Too acid	1.00	Depth to saturated zone	1.00
			Too acid	1.00
DoA:				
Dorovan	Very limited		Very limited	
	Depth to saturated zone	1.00	Flooding	1.00
	Flooding	1.00	Depth to saturated zone	1.00
	Too acid	1.00	Seepage	1.00
			Too acid	1.00
DrA:				
Dragston	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
	Filtering capacity	0.99	Depth to saturated zone	1.00
	Too acid	0.42	Too acid	0.42

Table 7b.—Agricultural Waste Management (Part 2)—Continued

Map symbol and soil name	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
DuA:				
Dragston	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
	Filtering capacity	0.99	Depth to saturated zone	1.00
	Too acid	0.42	Too acid	0.42
Urban land	Not rated		Not rated	
GeA:				
Gertie	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
	Slow water movement	1.00	Depth to saturated zone	1.00
	Too acid	0.96	Too acid	0.96
GrA:				
Gertie	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Seepage	1.00
	Too acid	0.96	Too acid	0.96
GtA:				
Gertie	Very limited		Very limited	
	Depth to saturated zone	1.00	Flooding	1.00
	Flooding	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Seepage	1.00
	Too acid	1.00	Too acid	1.00
HyA:				
Hyde	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too acid	1.00	Seepage	1.00
	Slow water movement	0.37	Too acid	1.00
MuA:				
Munden	Very limited		Very limited	
	Depth to saturated zone	0.99	Seepage	1.00
	Too acid	0.07	Depth to saturated zone	0.99
			Too acid	0.07
NmA:				
Nimmo	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
	Too acid	0.96	Depth to saturated zone	1.00
			Too acid	0.96

Table 7b.—Agricultural Waste Management (Part 2)—Continued

Map symbol and soil name	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
NxA:				
Nixonton	Somewhat limited		Very limited	
	Too acid	0.42	Seepage	1.00
	Slow water movement	0.22	Too acid	0.42
Yeopim	Very limited		Very limited	
	Depth to saturated zone	0.99	Seepage	1.00
	Slow water movement	0.22	Depth to saturated zone	0.99
	Too acid	0.07	Too acid	0.07
PaA:				
Pasquotank	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too acid	0.85	Seepage	1.00
			Too acid	0.85
PeA:				
Perquimans	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.22	Seepage	1.00
	Too acid	0.07	Too acid	0.07
PgA:				
Pettigrew	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Too acid	1.00
	Too acid	1.00	Seepage	1.00
PoA:				
Portsmouth	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
	Too acid	0.42	Depth to saturated zone	1.00
			Too acid	0.42
PrA:				
Portsmouth	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
	Slow water movement	1.00	Depth to saturated zone	1.00
	Too acid	1.00	Too acid	1.00
PuA:				
Pungo	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too acid	1.00	Too acid	1.00
			Seepage	1.00

Table 7b.—Agricultural Waste Management (Part 2)—Continued

Map symbol and soil name	Disposal of wastewater by irrigation		Overland flow of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
RoA:				
Roper----------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too acid	0.96	Seepage	1.00
	Slow water movement	0.22	Too acid	0.96
SeA:				
Seabrook------------	Very limited		Very limited	
	Filtering capacity	0.99	Seepage	1.00
	Depth to saturated zone	0.99	Depth to saturated zone	0.99
	Too acid	0.96	Too acid	0.96
	Droughty	0.18		
TeA:				
Tetotum-------------	Very limited		Very limited	
	Depth to saturated zone	0.99	Seepage	1.00
	Too acid	0.42	Depth to saturated zone	0.99
			Too acid	0.42
TmA:				
Tetotum-------------	Very limited		Very limited	
	Depth to saturated zone	0.99	Seepage	1.00
	Too acid	0.42	Depth to saturated zone	0.99
			Too acid	0.42
Urban land----------	Not rated		Not rated	
ToA:				
Tomotley------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
	Too acid	0.21	Depth to saturated zone	1.00
			Too acid	0.21
TuA:				
Tomotley------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
	Too acid	0.21	Depth to saturated zone	1.00
			Too acid	0.21
Portsmouth----------	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
	Too acid	0.42	Depth to saturated zone	1.00
			Too acid	0.42
Urban land----------	Not rated		Not rated	

Table 7b.—Agricultural Waste Management (Part 2)—Continued

Map symbol and soil name	Disposal of wastewater by irrigation		Overland flow of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
UdA:				
Udorthents, loamy---	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too steep for sprinkler application	1.00	Too steep for surface application	1.00
	Too acid	0.96	Too acid	0.96
Ur:				
Urban land----------	Not rated		Not rated	
WaA:				
Wahee---------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Seepage	1.00
	Too acid	0.42	Too acid	0.42
WcA:				
Wasda---------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too acid	0.96	Too acid	0.96
	Slow water movement	0.22	Seepage	0.77
Conaby--------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too acid	1.00	Too acid	1.00
			Seepage	1.00
WeA:				
Weeksville----------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too acid	1.00	Seepage	1.00
			Too acid	1.00
YeA:				
Yeopim--------------	Very limited		Very limited	
	Depth to saturated zone	0.99	Seepage	1.00
	Slow water movement	0.22	Depth to saturated zone	0.99
	Too acid	0.07	Too acid	0.07

Table 7c.—Agricultural Waste Management (Part 3)

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
ApA:				
Arapahoe	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.32	Too acid	0.85
BaA:				
Barclay	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Too acid	0.07
BcA:				
Belhaven	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Too acid	0.96
	Too acid	0.99	Slow water movement	0.15
BeA:				
Bertie	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Filtering capacity	0.99
	Too acid	0.07	Too acid	0.07
BgA:				
Bertie	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Filtering capacity	0.99
	Too acid	0.07	Too acid	0.07
Urban land	Not rated		Not rated	
BoA:				
Bojac	Very limited		Very limited	
	Depth to saturated zone	1.00	Filtering capacity	0.99
	Slow water movement	0.32		
	Too acid	0.03		

Table 7c.—Agricultural Waste Management (Part 3)—Continued

Map symbol and soil name	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
CaA:				
Cape Lookout--------	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slow water movement	0.94
			Too acid	0.42
CfA:				
Cape Lookout--------	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slow water movement	0.94
			Too acid	0.42
ChA:				
Chapanoke-----------	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Too acid	0.42
			Slow water movement	0.15
CsA:				
Chesapeake----------	Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Too acid	0.42
	Slow water movement	1.00		
	Too acid	0.14		
CwA:				
Chowan--------------	Very limited		Very limited	
	Flooding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Flooding	1.00
	Slow water movement	0.68	Too acid	0.42
DeA:				
Deloss--------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Too acid	1.00
	Too acid	0.14		
DoA:				
Dorovan-------------	Very limited		Very limited	
	Flooding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Flooding	1.00
	Slow water movement	1.00	Too acid	1.00
	Too acid	0.91		

Table 7c.—Agricultural Waste Management (Part 3)—Continued

Map symbol and soil name	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
DrA:				
Dragston	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.32	Filtering capacity	0.99
	Too acid	0.03	Too acid	0.42
DuA:				
Dragston	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.32	Filtering capacity	0.99
	Too acid	0.03	Too acid	0.42
Urban land	Not rated		Not rated	
GeA:				
Gertie	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Too acid	0.96
	Too acid	0.14	Slow water movement	0.94
GrA:				
Gertie	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Too acid	0.96
	Too acid	0.14	Slow water movement	0.94
GtA:				
Gertie	Very limited		Very limited	
	Flooding	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Too acid	1.00
	Too acid	0.14	Slow water movement	0.94
HyA:				
Hyde	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Too acid	1.00
	Too acid	0.55	Slow water movement	0.26
MuA:				
Munden	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	0.99
	Slow water movement	0.62	Too acid	0.07
	Too acid	0.03		

Table 7c.—Agricultural Waste Management (Part 3)—Continued

Map symbol and soil name	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
NmA:				
Nimmo	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.32	Too acid	0.96
NxA:				
Nixonton	Very limited		Somewhat limited	
	Slow water movement	1.00	Too acid	0.42
	Depth to saturated zone	1.00	Slow water movement	0.15
Yeopim	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	0.99
	Depth to saturated zone	1.00	Slow water movement	0.15
	Too acid	0.14	Too acid	0.07
PaA:				
Pasquotank	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Too acid	0.85
	Too acid	0.03		
PeA:				
Perquimans	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slow water movement	0.15
			Too acid	0.07
PgA:				
Pettigrew	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slow water movement	1.00
	Too acid	0.55	Too acid	1.00
PoA:				
Portsmouth	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Too acid	0.42
	Too acid	0.07		
PrA:				
Portsmouth	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Too acid	1.00
	Too acid	0.21	Slow water movement	0.94

Table 7c.—Agricultural Waste Management (Part 3)—Continued

Map symbol and soil name	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
PuA:				
Pungo	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.62	Too acid	1.00
RoA:				
Roper	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Too acid	0.96
	Too acid	0.96	Slow water movement	0.15
SeA:				
Seabrook	Very limited		Very limited	
	Depth to saturated zone	1.00	Filtering capacity	0.99
	Too acid	0.07	Depth to saturated zone	0.99
			Too acid	0.96
TeA:				
Tetotum	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	0.99
	Slow water movement	1.00	Too acid	0.42
	Too acid	0.14		
TmA:				
Tetotum	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	0.99
	Slow water movement	1.00	Too acid	0.42
	Too acid	0.14		
Urban land	Not rated		Not rated	
ToA:				
Tomotley	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Too acid	0.21
	Too acid	0.21		
TuA:				
Tomotley	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Too acid	0.21
	Too acid	0.21		

Table 7c.—Agricultural Waste Management (Part 3)—Continued

Map symbol and soil name	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
Portsmouth----------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Too acid	0.42
	Too acid	0.07		
Urban land----------	Not rated		Not rated	
UdA:				
Udorthents, loamy---	Very limited		Very limited	
	Slow water movement	1.00	Too steep for surface application	1.00
	Slope	1.00	Too steep for sprinkler irrigation	1.00
			Too acid	0.96
Ur:				
Urban land----------	Not rated		Not rated	
WaA:				
Wahee---------------	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slow water movement	0.94
			Too acid	0.42
WcA:				
Wasda---------------	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Too acid	0.96
	Too acid	0.14	Slow water movement	0.15
Conaby--------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Too acid	1.00
	Too acid	0.14		
WeA:				
Weeksville----------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Too acid	1.00
	Too acid	0.03		
YeA:				
Yeopim--------------	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	0.99
	Depth to saturated zone	1.00	Slow water movement	0.15
	Too acid	0.14	Too acid	0.07

Table 8.—Forestland Productivity

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
ApA:				
Arapahoe, drained	---	---	---	---
Arapahoe, undrained	loblolly pine	93	143	loblolly pine, pond pine, willow oak, laurel oak, baldcypress
	pond pine	65	43	
	sweetgum	---	---	
	red maple	---	---	
	yellow-poplar	---	---	
	blackgum	---	---	
	willow oak	---	---	
	swamp chestnut oak	---	---	
	water oak	---	---	
	water tupelo	---	---	
BaA:				
Barclay, drained	---	---	---	---
Barclay, undrained	loblolly pine	86	129	loblolly pine, yellow-poplar, cherrybark oak, swamp chestnut oak, willow oak, water oak
	sweetgum	90	100	
	yellow-poplar	90	86	
	red maple	---	---	
	blackgum	---	---	
	water oak	---	---	
	willow oak	---	---	
BcA:				
Belhaven, drained	---	---	---	---
Belhaven, undrained	pond pine	63	43	loblolly pine, Atlantic white cedar, pond pine
	loblolly pine	85	114	
	red maple	---	---	
	sweetgum	---	---	
	Atlantic white cedar	---	---	
	swamp tupelo	---	---	
BeA:				
Bertie, drained	---	---	---	---
Bertie, undrained	loblolly pine	90	131	loblolly pine, yellow-poplar, green ash, sweetgum
	yellow-poplar	90	90	
	American sycamore	90	100	
	white oak	80	62	
	southern red oak	80	62	
	sweetgum	90	106	
	red maple	---	---	
	water oak	---	---	
BgA:				
Bertie	---	---	---	---
Urban land	---	---	---	---
BoA:				
Bojac	loblolly pine	80	114	loblolly pine, longleaf pine
	southern red oak	65	57	
	sweetgum	80	86	

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
CaA:				
Cape Lookout, drained---	---	---	---	---
Cape Lookout, undrained-	loblolly pine-------	102	157	loblolly pine, pond pine, water oak, willow oak, laurel oak, baldcypress, Overcup Oak, green ash
	sweetgum-----------	100	138	
	willow oak----------	86	86	
	Atlantic white cedar	---	---	
	baldcypress---------	---	---	
	red maple-----------	---	---	
	swamp white oak-----	---	---	
	water oak-----------	---	---	
	water tupelo--------	---	---	
	blackgum------------	---	---	
CfA:				
Cape Lookout, drained---	---	---	---	---
Cape Lookout, undrained-	loblolly pine-------	102	157	loblolly pine, pond pine, water oak, willow oak, laurel oak, baldcypress, Overcup Oak, green ash
	sweetgum-----------	100	138	
	willow oak----------	86	86	
	Atlantic white cedar	---	---	
	baldcypress---------	---	---	
	red maple-----------	---	---	
	swamp white oak-----	---	---	
	water oak-----------	---	---	
	water tupelo--------	---	---	
	blackgum------------	---	---	
ChA:				
Chapanoke, drained------	---	---	---	---
Chapanoke, undrained----	loblolly pine-------	90	131	loblolly pine, willow oak, water oak, cherrybark oak, swamp chestnut oak, yellow-poplar
	sweetgum-----------	---	---	
	yellow-poplar-------	---	---	
	water oak-----------	---	---	
	southern red oak----	---	---	
	red maple-----------	---	---	
	blackgum------------	---	---	
	swamp chestnut oak--	---	---	
CsA:				
Chesapeake--------------	loblolly pine-------	86	129	loblolly pine, longleaf pine, shortleaf pine, southern red oak, white oak
	yellow-poplar-------	100	114	
	southern red oak----	85	72	
	longleaf pine-------	---	---	
	sweetgum-----------	---	---	
	white oak-----------	---	---	
	American beech------	---	---	
	hickory-------------	---	---	
CwA:				
Chowan, undrained-------	water tupelo--------	84	129	baldcypress, green ash, water tupelo
	green ash-----------	98	86	
	Atlantic white cedar	---	---	
	baldcypress---------	---	---	
	pond pine-----------	---	---	
	red maple-----------	---	---	
	sweetgum------------	---	---	
	blackgum------------	---	---	

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
DeA:				
Deloss, drained	loblolly pine	101	145	---
	pond pine	67	48	
	baldcypress	---	---	
	blackgum	---	---	
	water oak	---	---	
	swamp chestnut oak	---	---	
Deloss, undrained	pond pine	67	48	---
	baldcypress	---	---	
	loblolly pine	---	---	
	blackgum	---	---	
	water oak	---	---	
	swamp chestnut oak	---	---	
DoA:				
Dorovan, undrained	blackgum	70	95	baldcypress
	baldcypress	---	---	
	green ash	---	---	
	red maple	---	---	
	water tupelo	---	---	
DrA:				
Dragston, drained	---	---	---	---
Dragston, undrained	loblolly pine	86	129	loblolly pine, yellow-poplar, water oak, willow oak, cherrybark oak, swamp chestnut oak, white oak, southern red oak
	southern red oak	80	62	
	sweetgum	90	100	
	yellow-poplar	90	86	
	white oak	---	---	
DuA:				
Dragston, drained	---	---	---	---
Urban land	---	---	---	---
GeA:				
Gertie, drained	loblolly pine	99	95	loblolly pine, yellow-poplar, willow oak, water oak, cherrybark oak, green ash
	sweetgum	---	---	
	willow oak	---	---	
	water oak	---	---	
	yellow-poplar	---	---	
	red maple	---	---	
	American beech	---	---	
	blackgum	---	---	
Gertie, undrained	sweetgum	90	106	sweetgum, yellow-poplar, willow oak, water oak, cherrybark oak, green ash
	willow oak	67	57	
	water oak	67	57	
	yellow-poplar	---	---	
	red maple	---	---	
	blackgum	---	---	

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
GrA:				
Gertie, drained	loblolly pine	99	95	loblolly pine, yellow-poplar, willow oak, water oak, cherrybark oak, green ash
	sweetgum	---	---	
	willow oak	---	---	
	water oak	---	---	
	yellow-poplar	---	---	
	red maple	---	---	
	American beech	---	---	
	blackgum	---	---	
Gertie, undrained	sweetgum	90	106	sweetgum, yellow-poplar, willow oak, water oak, cherrybark oak, green ash
	willow oak	67	57	
	water oak	67	57	
	yellow-poplar	---	---	
	red maple	---	---	
	blackgum	---	---	
GtA:				
Gertie, undrained	sweetgum	90	106	sweetgum, yellow-poplar, willow oak, water oak, cherrybark oak, green ash
	willow oak	67	57	
	water oak	67	57	
	yellow-poplar	---	---	
	red maple	---	---	
	blackgum	---	---	
Gertie, drained	loblolly pine	99	95	loblolly pine, yellow-poplar, willow oak, water oak, cherrybark oak, green ash
	sweetgum	---	---	
	willow oak	---	---	
	water oak	---	---	
	yellow-poplar	---	---	
	red maple	---	---	
	American beech	---	---	
	blackgum	---	---	
HyA:				
Hyde, drained	---	---	---	---
Hyde, undrained	loblolly pine	107	172	loblolly pine, yellow-poplar, sweetgum, Atlantic white cedar, green ash, baldcypress, willow oak, laurel oak
	baldcypress	---	---	
	pond pine	---	---	
	red maple	---	---	
	swamp chestnut oak	---	---	
	blackgum	---	---	
	sweetgum	---	---	
	water oak	---	---	
	water tupelo	---	---	
	willow oak	---	---	
	yellow-poplar	---	---	
MuA:				
Munden	loblolly pine	90	129	loblolly pine, cherrybark oak, water oak, willow oak, yellow-poplar
	sweetgum	90	100	
	white oak	76	57	

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
NmA:				
Nimmo, drained	---	---	---	---
Nimmo, undrained	loblolly pine	95	143	loblolly pine, yellow-poplar, willow oak, water oak, white oak
	sweetgum	95	114	
	water oak	80	72	
	white oak	80	57	
	red maple	---	---	
	willow oak	---	---	
	yellow-poplar	---	---	
	American beech	---	---	
NxA:				
Nixonton	loblolly pine	90	131	loblolly pine, yellow-poplar, sweetgum, cherrybark oak, water oak, willow oak
	sweetgum	90	106	
	yellow-poplar	100	107	
	southern red oak	---	---	
Yeopim	loblolly pine	91	129	loblolly pine, yellow-poplar, sweetgum, American sycamore, green ash, cherrybark oak, water oak, willow oak, white oak, southern red oak
	red maple	---	---	
	southern red oak	---	---	
	sweetgum	---	---	
	white oak	---	---	
	yellow-poplar	---	---	
	hickory	---	---	
PaA:				
Pasquotank, drained	---	---	---	---
Pasquotank, undrained	loblolly pine	94	140	loblolly pine, sweetgum, American sycamore, green ash, yellow-poplar, cherrybark oak, water oak, willow oak
	green ash	80	49	
	sweetgum	90	106	
	water oak	90	86	
	blackgum	---	---	
	yellow-poplar	---	---	
	blackgum	---	---	
	red maple	---	---	
	willow oak	---	---	
	swamp chestnut oak	---	---	
PeA:				
Perquimans, drained	---	---	---	---
Perquimans, undrained	loblolly pine	102	143	loblolly pine, yellow-poplar, willow oak, white oak, water oak, cherrybark oak
	sweetgum	---	---	
	water oak	---	---	
	willow oak	84	64	
	red maple	---	---	
	yellow-poplar	98	104	
	white oak	80	62	
	southern red oak	---	---	
	cherrybark oak	---	---	

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
PgA:				
Pettigrew, drained	---	---	---	---
Pettigrew, undrained	loblolly pine	96	143	loblolly pine, water tupelo, yellow-poplar, Atlantic white cedar, pond pine
	baldcypress	---	---	
	pond pine	80	72	
	sweetgum	---	---	
	red maple	---	---	
	blackgum	---	---	
	sweetbay	---	---	
	swamp titi	---	---	
	redbay	---	---	
	loblolly bay	---	---	
PoA:				
Portsmouth, drained	---	---	---	loblolly pine, sweetgum
Portsmouth, undrained	loblolly pine	101	145	loblolly pine, willow oak, laurel oak, baldcypress, green ash
	sweetgum	100	138	
	water oak	100	98	
	blackgum	---	---	
	swamp chestnut oak	---	---	
	pond pine	---	---	
	red maple	---	---	
	willow oak	---	---	
	yellow-poplar	---	---	
PrA:				
Portsmouth, drained	---	---	---	loblolly pine, sweetgum
Portsmouth, undrained	loblolly pine	101	145	loblolly pine, willow oak, laurel oak, baldcypress, green ash
	sweetgum	100	138	
	water oak	100	98	
	blackgum	---	---	
	swamp chestnut oak	---	---	
	pond pine	---	---	
	red maple	---	---	
	willow oak	---	---	
	yellow-poplar	---	---	
PuA:				
Pungo, undrained	Atlantic white cedar	---	---	pond pine, Atlantic white cedar
	baldcypress	---	---	
	pond pine	55	29	
	red maple	---	---	
	blackgum	---	---	
	sweetbay	---	---	
	redbay	---	---	
	loblolly bay	---	---	
	swamp titi	---	---	
Pungo, drained	pond pine	55	33	pond pine, loblolly pine, Atlantic white cedar
	loblolly pine	77	105	

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
RoA:				
Roper, drained	---	---	---	---
Roper, undrained	loblolly pine	107	170	Atlantic white cedar, loblolly pine, sweetgum, pond pine
	pond pine	72	56	
	sweetgum	---	---	
	water oak	---	---	
	red maple	---	---	
	blackgum	---	---	
	baldcypress	---	---	
	water tupelo	---	---	
SeA:				
Seabrook	loblolly pine	81	112	loblolly pine, longleaf pine, yellow-poplar
	longleaf pine	---	---	
	southern red oak	---	---	
	sweetgum	---	---	
	red maple	---	---	
	yellow-poplar	---	---	
	water oak	---	---	
	willow oak	---	---	
	American beech	---	---	
TeA:				
Tetotum	loblolly pine	90	131	loblolly pine, yellow-poplar, green ash, cherrybark oak, water oak, willow oak, American sycamore
	yellow-poplar	90	90	
	white oak	77	59	
	sweetgum	---	---	
	water oak	---	---	
	southern red oak	---	---	
	willow oak	---	---	
TmA:				
Tetotum	---	---	---	---
Urban land	---	---	---	---
ToA:				
Tomotley, drained	---	---	---	---
Tomotley, undrained	loblolly pine	99	143	loblolly pine, yellow-poplar, willow oak, water oak, green ash, swamp chestnut oak
	willow oak	86	86	
	red maple	---	---	
	sweetgum	---	---	
	water oak	---	---	
	yellow-poplar	---	---	
	American beech	---	---	
	swamp chestnut oak	---	---	
TuA:				
Tomotley, drained	---	---	---	---
Portsmouth, drained	---	---	---	---
Urban land	---	---	---	---
UdA:				
Udorthents, loamy	---	---	---	---

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
Ur:				
Urban land	---	---	---	---
WaA:				
Wahee, drained	---	---	---	---
Wahee, undrained	loblolly pine	86	123	loblolly pine
	sweetgum	90	106	
	blackgum	---	---	
	water oak	---	---	
	swamp chestnut oak	---	---	
	willow oak	---	---	
	southern red oak	---	---	
WcA:				
Wasda, drained	---	---	---	---
Wasda, undrained	loblolly pine	92	143	loblolly pine, Atlantic white cedar, sweetgum, pond pine
	baldcypress	---	---	
	pond pine	---	---	
	red maple	---	---	
	sweetgum	---	---	
	blackgum	---	---	
	redbay	---	---	
	sweetbay	---	---	
	swamp titi	---	---	
	loblolly bay	---	---	
Conaby, drained	---	---	---	---
Conaby, undrained	loblolly pine	100	154	loblolly pine, Atlantic white cedar, sweetgum, pond pine
	pond pine	---	---	
	sweetgum	---	---	
	red maple	---	---	
	baldcypress	---	---	
WeA:				
Weeksville, drained	loblolly pine	107	170	loblolly pine, sweetgum, American sycamore, Shumard's oak, water tupelo, Atlantic white cedar, green ash
	water tupelo	---	---	
	sweetgum	---	---	
Weeksville, undrained	blackgum	70	95	loblolly pine, baldcypress, pond pine, willow oak, laurel oak
	water tupelo	---	---	
	baldcypress	---	---	
YeA:				
Yeopim	loblolly pine	91	133	loblolly pine, yellow-poplar, sweetgum, American sycamore, green ash
	sweetgum	---	---	
	yellow-poplar	---	---	
	southern red oak	---	---	
	white oak	---	---	
	red maple	---	---	

Table 9a.—Forestland Management (Part 1)

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
ApA:						
Arapahoe	Slight		Moderately suited		Moderate	
			Wetness	0.50	Low strength	0.50
BaA:						
Barclay	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
BcA:						
Belhaven	Slight		Poorly suited		Severe	
			Low strength	1.00	Low strength	1.00
			Wetness	0.50		
BeA:						
Bertie	Moderate		Well suited		Moderate	
	Low strength	0.50			Low strength	0.50
BgA:						
Bertie	Moderate		Well suited		Moderate	
	Low strength	0.50			Low strength	0.50
Urban land	Not rated		Not rated		Not rated	
BoA:						
Bojac	Slight		Well suited		Moderate	
					Low strength	0.50
CaA:						
Cape Lookout	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Wetness	0.50		
CfA:						
Cape Lookout	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Wetness	0.50		
ChA:						
Chapanoke	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
CsA:						
Chesapeake	Slight		Well suited		Moderate	
					Low strength	0.50
CwA:						
Chowan	Severe		Poorly suited		Severe	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Wetness	1.00	Low strength	1.00		
	Low strength	0.50	Wetness	1.00		

Table 9a.—Forestland Management (Part 1)—Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
DeA:						
Deloss--------------	Slight		Moderately suited		Moderate	
			Wetness	0.50	Low strength	0.50
DoA:						
Dorovan-------------	Severe		Poorly suited		Severe	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Wetness	1.00	Low strength	1.00	Wetness	0.50
			Wetness	1.00		
DrA:						
Dragston------------	Slight		Well suited		Moderate	
					Low strength	0.50
DuA:						
Dragston------------	Slight		Well suited		Moderate	
					Low strength	0.50
Urban land----------	Not rated		Not rated		Not rated	
GeA:						
Gertie--------------	Moderate		Moderately suited		Severe	
	Low strength	0.50	Wetness	0.50	Low strength	1.00
			Low strength	0.50		
GrA:						
Gertie--------------	Slight		Moderately suited		Severe	
			Low strength	0.50	Low strength	1.00
GtA:						
Gertie--------------	Severe		Poorly suited		Severe	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
			Wetness	0.50		
HyA:						
Hyde----------------	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Wetness	0.50		
MuA:						
Munden--------------	Moderate		Well suited		Moderate	
	Sandiness	0.50		0.10	Low strength	0.50
NmA:						
Nimmo---------------	Slight		Well suited		Moderate	
					Low strength	0.50
NxA:						
Nixonton------------	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
Yeopim--------------	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00

Table 9a.—Forestland Management (Part 1)—Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
PaA:						
Pasquotank----------	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
PeA:						
Perquimans----------	Slight		Moderately suited		Severe	
			Low strength	0.50	Low strength	1.00
PgA:						
Pettigrew-----------	Moderate		Poorly suited		Severe	
	Low strength	0.50	Low strength	1.00	Low strength	1.00
			Wetness	0.71		
PoA:						
Portsmouth----------	Slight		Moderately suited		Moderate	
			Wetness	0.50	Low strength	0.50
PrA:						
Portsmouth----------	Moderate		Moderately suited		Moderate	
	Sandiness	0.50	Wetness	0.50	Low strength	0.50
	Stickiness/slope	0.50				
PuA:						
Pungo---------------	Severe		Poorly suited		Severe	
	Wetness	1.00	Low strength	1.00	Low strength	1.00
		0.10	Wetness	0.50		
			Stickiness; high plasticity index	0.50		
RoA:						
Roper---------------	Moderate		Poorly suited		Severe	
	Low strength	0.50	Low strength	1.00	Low strength	1.00
			Wetness	0.71		
SeA:						
Seabrook------------	Moderate		Moderately suited		Moderate	
	Sandiness	0.50	Sandiness	0.50	Low strength	0.50
TeA:						
Tetotum-------------	Slight		Well suited		Moderate	
					Low strength	0.50
TmA:						
Tetotum-------------	Slight		Well suited		Moderate	
				0.10	Low strength	0.50
Urban land----------	Not rated		Not rated		Not rated	
ToA:						
Tomotley------------	Slight		Well suited		Moderate	
					Low strength	0.50
TuA:						
Tomotley------------	Slight		Well suited		Moderate	
					Low strength	0.50

Table 9a.—Forestland Management (Part 1)—Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Portsmouth----------	Slight		Moderately suited		Moderate	
			Wetness	0.50	Low strength	0.50
Urban land----------	Not rated		Not rated		Not rated	
UdA:						
Udorthents, loamy---	Moderate		Poorly suited		Severe	
	Slope	0.50	Slope	1.00	Low strength	1.00
			Low strength	0.50		
			Stickiness; high plasticity index	0.50		
Ur:						
Urban land----------	Not rated		Not rated		Not rated	
WaA:						
Wahee---------------	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
WcA:						
Wasda---------------	Moderate		Poorly suited		Severe	
	Low strength	0.50	Low strength	1.00	Low strength	1.00
			Wetness	0.50		
Conaby--------------	Moderate		Poorly suited		Severe	
	Sandiness	0.50	Low strength	1.00	Low strength	1.00
			Wetness	1.00		
			Sandiness	0.50		
WeA:						
Weeksville----------	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Wetness	0.50		
YeA:						
Yeopim--------------	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00

Table 9b.—Forestland Management (Part 2)

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Hazard of off-road or off-trail erosion: Rating class and limiting features	Hazard of off-road or off-trail erosion: Value	Hazard of erosion on roads and trails: Rating class and limiting features	Hazard of erosion on roads and trails: Value	Suitability for roads (natural surface): Rating class and limiting features	Suitability for roads (natural surface): Value
ApA:						
Arapahoe	Slight		Slight		Moderately suited	
					Wetness	0.50
BaA:						
Barclay	Slight		Slight		Moderately suited	
					Low strength	0.50
BcA:						
Belhaven	Slight		Slight		Poorly suited	
					Low strength	1.00
					Wetness	0.50
BeA:						
Bertie	Slight		Slight		Well suited	
BgA:						
Bertie	Slight		Slight		Well suited	
Urban land	Not rated		Not rated		Not rated	
BoA:						
Bojac	Slight		Slight		Well suited	
CaA:						
Cape Lookout	Slight		Slight		Moderately suited	
					Low strength	0.50
					Wetness	0.50
CfA:						
Cape Lookout	Slight		Slight		Moderately suited	
					Low strength	0.50
					Wetness	0.50
ChA:						
Chapanoke	Slight		Slight		Moderately suited	
					Low strength	0.50
CsA:						
Chesapeake	Slight		Slight		Well suited	
CwA:						
Chowan	Slight		Slight		Poorly suited	
					Flooding	1.00
					Low strength	1.00
					Wetness	1.00
DeA:						
Deloss	Slight		Slight		Moderately suited	
					Wetness	0.50

Table 9b.—Forestland Management (Part 2)—Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
DoA:						
Dorovan----------------	Slight		Slight		Poorly suited	
					Flooding	1.00
					Low strength	1.00
					Wetness	1.00
DrA:						
Dragston------------	Slight		Slight		Well suited	
DuA:						
Dragston------------	Slight		Slight		Well suited	
Urban land----------	Not rated		Not rated		Not rated	
GeA:						
Gertie--------------	Slight		Slight		Moderately suited	
					Wetness	0.50
					Low strength	0.50
GrA:						
Gertie--------------	Slight		Slight		Moderately suited	
					Low strength	0.50
GtA:						
Gertie--------------	Slight		Slight		Poorly suited	
					Flooding	1.00
					Low strength	0.50
					Wetness	0.50
HyA:						
Hyde----------------	Slight		Slight		Moderately suited	
					Low strength	0.50
					Wetness	0.50
MuA:						
Munden--------------	Slight		Slight		Well suited	
NmA:						
Nimmo---------------	Slight		Slight		Well suited	
NxA:						
Nixonton------------	Slight		Slight		Moderately suited	
					Low strength	0.50
Yeopim--------------	Slight		Slight		Moderately suited	
					Low strength	0.50
PaA:						
Pasquotank----------	Slight		Slight		Moderately suited	
					Low strength	0.50
PeA:						
Perquimans----------	Slight		Slight		Moderately suited	
					Low strength	0.50

Table 9b.—Forestland Management (Part 2)—Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
PgA:						
Pettigrew	Slight		Slight		Poorly suited	
					Low strength	1.00
					Wetness	0.71
PoA:						
Portsmouth	Slight		Slight		Moderately suited	
					Wetness	0.50
PrA:						
Portsmouth	Slight		Slight		Moderately suited	
					Wetness	0.50
PuA:						
Pungo	Slight		Slight		Poorly suited	
					Low strength	1.00
					Wetness	0.50
					Stickiness; high plasticity index	0.50
RoA:						
Roper	Slight		Slight		Poorly suited	
					Low strength	1.00
					Wetness	0.71
SeA:						
Seabrook	Slight		Slight		Moderately suited	
					Sandiness	0.50
TeA:						
Tetotum	Slight		Slight		Well suited	
TmA:						
Tetotum	Slight		Slight		Well suited	
Urban land	Not rated		Not rated		Not rated	
ToA:						
Tomotley	Slight		Slight		Well suited	
TuA:						
Tomotley	Slight		Slight		Well suited	
Portsmouth	Slight		Slight		Moderately suited	
					Wetness	0.50
Urban land	Not rated		Not rated		Not rated	
UdA:						
Udorthents, loamy	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
					Stickiness; high plasticity index	0.50
Ur:						
Urban land	Not rated		Not rated		Not rated	

Table 9b.—Forestland Management (Part 2)—Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
WaA:						
Wahee	Slight		Slight		Moderately suited	
					Low strength	0.50
WcA:						
Wasda	Slight		Slight		Poorly suited	
					Low strength	1.00
					Wetness	0.50
Conaby	Slight		Slight		Poorly suited	
					Low strength	1.00
					Wetness	1.00
					Sandiness	0.50
WeA:						
Weeksville	Slight		Slight		Moderately suited	
					Low strength	0.50
					Wetness	0.50
YeA:						
Yeopim	Slight		Slight		Moderately suited	
					Low strength	0.50

Table 9c.—Forestland Management (Part 3)

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
ApA:						
Arapahoe	Well suited		Well suited		Well suited	
BaA:						
Barclay	Well suited		Well suited		Moderately suited	
					Low strength	0.50
BcA:						
Belhaven	Well suited		Well suited		Poorly suited	
					Low strength	1.00
BeA:						
Bertie	Well suited		Well suited		Well suited	
BgA:						
Bertie	Well suited		Well suited		Well suited	
Urban land	Not rated		Not rated		Not rated	
BoA:						
Bojac	Well suited		Well suited		Well suited	
CaA:						
Cape Lookout	Moderately suited		Moderately suited		Moderately suited	
	Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
CfA:						
Cape Lookout	Moderately suited		Moderately suited		Moderately suited	
	Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
ChA:						
Chapanoke	Well suited		Well suited		Moderately suited	
					Low strength	0.50
CsA:						
Chesapeake	Well suited		Well suited		Well suited	
CwA:						
Chowan	Well suited		Well suited		Poorly suited	
					Low strength	1.00
					Wetness	1.00
DeA:						
Deloss	Well suited		Well suited		Well suited	
DoA:						
Dorovan	Moderately suited		Moderately suited		Poorly suited	
	Wetness	0.50	Wetness	0.50	Low strength	1.00
	Sandiness	0.50	Sandiness	0.50	Wetness	1.00
DrA:						
Dragston	Well suited		Well suited		Well suited	

Table 9c—Forestland Management (Part 3)—Continued

Map symbol and soil name	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
DuA:						
Dragston	Well suited		Well suited		Well suited	
Urban land	Not rated		Not rated		Not rated	
GeA:						
Gertie	Well suited		Well suited		Moderately suited	
					Low strength	0.50
GrA:						
Gertie	Poorly suited		Poorly suited		Moderately suited	
	Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
GtA:						
Gertie	Well suited		Well suited		Moderately suited	
					Low strength	0.50
HyA:						
Hyde	Well suited		Well suited		Moderately suited	
					Low strength	0.50
MuA:						
Munden	Well suited		Well suited		Well suited	
NmA:						
Nimmo	Well suited		Well suited		Well suited	
NxA:						
Nixonton	Well suited		Well suited		Moderately suited	
					Low strength	0.50
Yeopim	Well suited		Well suited		Moderately suited	
					Low strength	0.50
PaA:						
Pasquotank	Well suited		Well suited		Moderately suited	
					Low strength	0.50
PeA:						
Perquimans	Well suited		Well suited		Moderately suited	
					Low strength	0.50
PgA:						
Pettigrew	Well suited		Well suited		Poorly suited	
					Low strength	1.00
PoA:						
Portsmouth	Well suited		Well suited		Well suited	
PrA:						
Portsmouth	Well suited		Well suited		Well suited	
PuA:						
Pungo	Moderately suited		Moderately suited		Poorly suited	
	Sandiness	0.50	Rock fragments	0.50	Low strength	1.00
			Sandiness	0.50	Wetness	1.00
					Stickiness; high plasticity index	0.50

Table 9c—Forestland Management (Part 3)—Continued

Map symbol and soil name	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
RoA:						
Roper	Well suited		Well suited		Poorly suited	
					Low strength	1.00
SeA:						
Seabrook	Moderately suited		Moderately suited		Moderately suited	
	Sandiness	0.50	Sandiness	0.50	Sandiness	0.50
TeA:						
Tetotum	Well suited		Well suited		Well suited	
TmA:						
Tetotum	Well suited		Well suited		Well suited	
Urban land	Not rated		Not rated		Not rated	
ToA:						
Tomotley	Well suited		Well suited		Well suited	
TuA:						
Tomotley	Well suited		Well suited		Well suited	
Portsmouth	Well suited		Well suited		Well suited	
Urban land	Not rated		Not rated		Not rated	
UdA:						
Udorthents, loamy	Well suited		Poorly suited		Moderately suited	
			Slope	0.75	Slope	0.50
					Low strength	0.50
					Stickiness; high plasticity index	0.50
Ur:						
Urban land	Not rated		Not rated		Not rated	
WaA:						
Wahee	Well suited		Well suited		Moderately suited	
					Low strength	0.50
WcA:						
Wasda	Well suited		Well suited		Poorly suited	
					Low strength	1.00
Conaby	Well suited		Well suited		Poorly suited	
					Low strength	1.00
					Sandiness	0.50
WeA:						
Weeksville	Well suited		Well suited		Moderately suited	
					Low strength	0.50
YeA:						
Yeopim	Well suited		Well suited		Moderately suited	
					Low strength	0.50

Table 9d.—Forestland Management (Part 4)

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
	Rating class and limiting features	Value	Rating class and limiting features	Value
ApA:				
Arapahoe	Well suited		Well suited	
BaA:				
Barclay	Well suited		Well suited	
BcA:				
Belhaven	Well suited		Well suited	
BeA:				
Bertie	Well suited		Well suited	
BgA:				
Bertie	Well suited		Well suited	
Urban land	Not rated		Not rated	
BoA:				
Bojac	Well suited		Well suited	
CaA:				
Cape Lookout	Well suited		Well suited	
CfA:				
Cape Lookout	Well suited		Well suited	
ChA:				
Chapanoke	Well suited		Well suited	
CsA:				
Chesapeake	Well suited		Well suited	
CwA:				
Chowan	Well suited		Unsuited	
			Wetness	1.00
DeA:				
Deloss	Well suited		Well suited	
DoA:				
Dorovan	Poorly suited		Unsuited	
	Wetness	0.50	Wetness	1.00
DrA:				
Dragston	Well suited		Well suited	
DuA:				
Dragston	Well suited		Well suited	
Urban land	Not rated		Not rated	

Table 9d—Forestland Management (Part 4)—Continued

Map symbol and soil name	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
	Rating class and limiting features	Value	Rating class and limiting features	Value
GeA:				
Gertie	Well suited		Well suited	
GrA:				
Gertie	Poorly suited		Well suited	
	Stickiness; high plasticity index	0.50		
GtA:				
Gertie	Well suited		Well suited	
HyA:				
Hyde	Well suited		Well suited	
MuA:				
Munden	Well suited		Well suited	
NmA:				
Nimmo	Well suited		Well suited	
NxA:				
Nixonton	Well suited		Well suited	
Yeopim	Well suited		Well suited	
PaA:				
Pasquotank	Well suited		Well suited	
PeA:				
Perquimans	Well suited		Well suited	
PgA:				
Pettigrew	Well suited		Well suited	
PoA:				
Portsmouth	Well suited		Well suited	
PrA:				
Portsmouth	Well suited		Well suited	
PuA:				
Pungo	Well suited		Unsuited	
			Wetness	1.00
RoA:				
Roper	Well suited		Well suited	
SeA:				
Seabrook	Well suited		Well suited	
TeA:				
Tetotum	Well suited		Well suited	
TmA:				
Tetotum	Well suited		Well suited	
Urban land	Not rated		Not rated	

Table 9d—Forestland Management (Part 4)—Continued

Map symbol and soil name	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
	Rating class and limiting features	Value	Rating class and limiting features	Value
ToA:				
Tomotley	Well suited		Well suited	
TuA:				
Tomotley	Well suited		Well suited	
Portsmouth	Well suited		Well suited	
Urban land	Not rated		Not rated	
UdA:				
Udorthents, loamy	Poorly suited		Poorly suited	
	Slope	0.50	Slope	0.50
Ur:				
Urban land	Not rated		Not rated	
WaA:				
Wahee	Well suited		Well suited	
WcA:				
Wasda	Well suited		Well suited	
Conaby	Well suited		Well suited	
WeA:				
Weeksville	Well suited		Well suited	
YeA:				
Yeopim	Well suited		Well suited	

Table 9e.—Forestland Management (Part 5)

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Potential for damage to soil by fire		Potential for seedling mortality	
	Rating class and limiting features	Value	Rating class and limiting features	Value
ApA:				
Arapahoe	High		High	
	Texture	1.00	Wetness	1.00
BaA:				
Barclay	Low		Moderate	
	Texture	0.10	Wetness	0.50
BcA:				
Belhaven	Low		High	
			Wetness	1.00
			Soil reaction	0.50
BeA:				
Bertie	Moderate		Moderate	
	Texture	0.50	Wetness	0.50
BgA:				
Bertie	Moderate		Moderate	
	Texture	0.50	Wetness	0.50
Urban land	Not rated		Not rated	
BoA:				
Bojac	High		Low	
	Texture	1.00		
CaA:				
Cape Lookout	Low		High	
	Texture	0.10	Wetness	1.00
CfA:				
Cape Lookout	Low		High	
	Texture	0.10	Wetness	1.00
ChA:				
Chapanoke	Moderate		High	
	Texture	0.50	Wetness	1.00
CsA:				
Chesapeake	Moderate		Low	
	Texture	0.50		
CwA:				
Chowan	Moderate		High	
	Texture	0.50	Wetness	1.00
			Soil reaction	0.50
DeA:				
Deloss	Low		High	
	Texture	0.10	Wetness	1.00

Table 9e—Forestland Management (Part 5)—Continued

Map symbol and soil name	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
DoA:				
Dorovan	Low		High	
			Wetness	1.00
			Soil reaction	0.50
DrA:				
Dragston	Moderate		Low	
	Texture	0.50		
DuA:				
Dragston	Moderate		Low	
	Texture	0.50		
Urban land	Not rated		Not rated	
GeA:				
Gertie	Moderate		High	
	Texture/surface depth	0.50	Wetness	1.00
GrA:				
Gertie	Moderate		High	
	Texture/surface depth	0.50	Wetness	1.00
GtA:				
Gertie	Moderate		High	
	Texture	0.50	Wetness	1.00
HyA:				
Hyde	Low		High	
	Texture	0.10	Wetness	1.00
			Soil reaction	0.50
MuA:				
Munden	Moderate		Low	
	Texture	0.50		
NmA:				
Nimmo	Moderate		High	
	Texture	0.50	Wetness	1.00
NxA:				
Nixonton	Moderate		Low	
	Texture	0.50		
Yeopim	Moderate		Low	
	Texture	0.50		
PaA:				
Pasquotank	Low		High	
	Texture	0.10	Wetness	1.00
PeA:				
Perquimans	Low		High	
	Texture	0.10	Wetness	1.00

Table 9e—Forestland Management (Part 5)—Continued

Map symbol and soil name	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
PgA:				
Pettigrew	Low		High	
			Wetness	1.00
			Soil reaction	0.50
PoA:				
Portsmouth	Low		High	
	Texture	0.10	Wetness	1.00
PrA:				
Portsmouth	Low		High	
	Texture	0.10	Wetness	1.00
PuA:				
Pungo	Low		High	
			Wetness	1.00
			Soil reaction	1.00
RoA:				
Roper	Low		High	
	Texture	0.10	Wetness	1.00
			Soil reaction	0.50
SeA:				
Seabrook	High		Low	
	Texture	1.00		
TeA:				
Tetotum	Moderate		Low	
	Texture	0.50		
TmA:				
Tetotum	Moderate		Low	
	Texture	0.50		
Urban land	Not rated		Not rated	
ToA:				
Tomotley	Low		High	
	Texture	0.10	Wetness	1.00
TuA:				
Tomotley	Low		High	
	Texture	0.10	Wetness	1.00
Portsmouth	Low		High	
	Texture	0.10	Wetness	1.00
Urban land	Not rated		Not rated	
UdA:				
Udorthents, loamy	Moderate		Low	
	Texture	0.50		
Ur:				
Urban land	Not rated		Not rated	

Table 9e—Forestland Management (Part 5)—Continued

Map symbol and soil name	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
WaA:				
Wahee----------------	Low		Moderate	
	Texture	0.10	Wetness	0.50
WcA:				
Wasda----------------	Low		High	
	Texture	0.10	Wetness	1.00
Conaby---------------	Low		High	
	Texture	0.10	Wetness	1.00
WeA:				
Weeksville-----------	Low		High	
	Texture	0.10	Wetness	1.00
YeA:				
Yeopim---------------	Moderate		Low	
	Texture	0.50		

Table 10a.—Recreational Development (Part 1)

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
ApA:						
Arapahoe	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
BaA:						
Barclay	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
BcA:						
Belhaven	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.15	Slow water movement	0.15	Slow water movement	0.15
BeA:						
Bertie	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
					Gravel content	0.06
BgA:						
Bertie	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
					Gravel content	0.06
Urban land	Not rated		Not rated		Not rated	
BoA:						
Bojac	Somewhat limited		Somewhat limited		Somewhat limited	
	Too sandy	0.34	Too sandy	0.34	Too sandy	0.34
CaA:						
Cape Lookout	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.94	Slow water movement	0.94	Slow water movement	0.94
CfA:						
Cape Lookout	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.94	Slow water movement	0.94	Slow water movement	0.94
ChA:						
Chapanoke	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.15	Slow water movement	0.15	Slow water movement	0.15

Table 10a.—Recreational Development (Part 1)—Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
CsA:						
Chesapeake----------	Somewhat limited		Somewhat limited		Somewhat limited	
	Too sandy	0.01	Too sandy	0.01	Too sandy	0.01
CwA:						
Chowan--------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	0.40	Flooding	1.00
DeA:						
Deloss--------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too sandy	0.01	Too sandy	0.01	Too sandy	0.01
DoA:						
Dorovan-------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	0.40	Flooding	1.00
DrA:						
Dragston------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.81	Depth to saturated zone	0.48	Depth to saturated zone	0.81
	Too sandy	0.01	Too sandy	0.01	Too sandy	0.01
DuA:						
Dragston------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.81	Depth to saturated zone	0.48	Depth to saturated zone	0.81
	Too sandy	0.01	Too sandy	0.01	Too sandy	0.01
Urban land----------	Not rated		Not rated		Not rated	
GeA:						
Gertie--------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.94	Slow water movement	0.94	Slow water movement	0.94
GrA:						
Gertie--------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.94	Slow water movement	0.94	Slow water movement	0.94
GtA:						
Gertie--------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Slow water movement	0.94	Flooding	1.00
	Slow water movement	0.94	Flooding	0.40	Slow water movement	0.94

Table 10a.—Recreational Development (Part 1)—Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
HyA:						
Hyde	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.26	Slow water movement	0.26	Slow water movement	0.26
MuA:						
Munden	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.39	Depth to saturated zone	0.19	Depth to saturated zone	0.39
	Too sandy	0.01	Too sandy	0.01	Too sandy	0.01
NmA:						
Nimmo	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too sandy	0.01	Too sandy	0.01	Too sandy	0.01
NxA:						
Nixonton	Somewhat limited		Somewhat limited		Somewhat limited	
	Slow water movement	0.15	Slow water movement	0.15	Slow water movement	0.15
Yeopim	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.39	Depth to saturated zone	0.19	Depth to saturated zone	0.39
	Slow water movement	0.15	Slow water movement	0.15	Slow water movement	0.15
PaA:						
Pasquotank	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
PeA:						
Perquimans	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.15	Slow water movement	0.15	Slow water movement	0.15
PgA:						
Pettigrew	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
PoA:						
Portsmouth	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
PrA:						
Portsmouth	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 10a.—Recreational Development (Part 1)—Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
PuA:						
Pungo----------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Organic matter content	1.00	Organic matter content	1.00	Organic matter content	1.00
	Too acid	1.00	Too acid	1.00	Too acid	1.00
RoA:						
RoA:						
Roper----------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Organic matter content	1.00	Organic matter content	1.00	Organic matter content	1.00
	Slow water movement	0.15	Slow water movement	0.15	Slow water movement	0.15
SeA:						
Seabrook-------------	Very limited		Very limited		Very limited	
	Too sandy	1.00	Too sandy	1.00	Too sandy	1.00
	Depth to saturated zone	0.39	Depth to saturated zone	0.19	Depth to saturated zone	0.39
TeA:						
Tetotum--------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.39	Depth to saturated zone	0.19	Depth to saturated zone	0.39
TmA:						
Tetotum--------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.39	Depth to saturated zone	0.19	Depth to saturated zone	0.39
Urban land-----------	Not rated		Not rated		Not rated	
ToA:						
Tomotley-------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too sandy	0.01	Too sandy	0.01	Too sandy	0.01
TuA:						
Tomotley-------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too sandy	0.01	Too sandy	0.01	Too sandy	0.01
Portsmouth-----------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Urban land-----------	Not rated		Not rated		Not rated	
UdA:						
Udorthents, loamy----	Not limited		Not limited		Not limited	
Ur:						
Urban land-----------	Not rated		Not rated		Not rated	

Table 10a.—Recreational Development (Part 1)—Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WaA:						
Wahee	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	0.99	Depth to saturated zone	1.00
	Slow water movement	0.94	Slow water movement	0.94	Slow water movement	0.94
WcA:						
Wasda	Not rated		Not rated		Not rated	
Conaby	Not rated		Not rated		Not rated	
WeA:						
Weeksville	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
YeA:						
Yeopim	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.39	Depth to saturated zone	0.19	Depth to saturated zone	0.39
	Slow water movement	0.15	Slow water movement	0.15	Slow water movement	0.15

Table 10b.—Recreational Development (Part 2)

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Paths and trails		Off-road motorcycle trails		Golf fairways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
ApA:						
Arapahoe	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
BaA:						
Barclay	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
BcA:						
Belhaven	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
BeA:						
Bertie	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
BgA:						
Bertie	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Urban land	Not rated		Not rated		Not rated	
BoA:						
Bojac	Somewhat limited		Somewhat limited		Not limited	
	Too sandy	0.34	Too sandy	0.34		
CaA:						
Cape Lookout	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
CfA:						
Cape Lookout	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
ChA:						
Chapanoke	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
CsA:						
Chesapeake	Somewhat limited		Somewhat limited		Not limited	
	Too sandy	0.01	Too sandy	0.01		
CwA:						
Chowan	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00

Table 10b.—Recreational Development (Part 2)—Continued

Map symbol and soil name	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
DeA:						
Deloss	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too sandy	0.01	Too sandy	0.01		
DoA:						
Dorovan	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
DrA:						
Dragston	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.11	Depth to saturated zone	0.11	Depth to saturated zone	0.48
	Too sandy	0.01	Too sandy	0.01		
DuA:						
Dragston	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.11	Depth to saturated zone	0.11	Depth to saturated zone	0.48
	Too sandy	0.01	Too sandy	0.01		
Urban land	Not rated		Not rated		Not rated	
GeA:						
Gertie	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
GrA:						
Gertie	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
GtA:						
Gertie	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
HyA:						
Hyde	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
MuA:						
Munden	Somewhat limited		Somewhat limited		Somewhat limited	
	Too sandy	0.01	Too sandy	0.01	Depth to saturated zone	0.19
NmA:						
Nimmo	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too sandy	0.01	Too sandy	0.01		

Table 10b.—Recreational Development (Part 2)—Continued

Map symbol and soil name	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
NxA:						
Nixonton------------	Not limited		Not limited		Not limited	
Yeopim--------------	Not limited		Not limited		Somewhat limited	
					Depth to saturated zone	0.19
PaA:						
Pasquotank----------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
PeA:						
Perquimans----------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
PgA:						
Pettigrew-----------	Not rated		Not rated		Very limited	
					Depth to saturated zone	1.00
PoA:						
Portsmouth----------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
PrA:						
Portsmouth----------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
PuA:						
Pungo---------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Organic matter content	1.00
	Organic matter content	1.00	Organic matter content	1.00	Depth to saturated zone	1.00
					Too acid	1.00
RoA:						
Roper---------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Organic matter content	1.00
	Organic matter content	1.00	Organic matter content	1.00	Depth to saturated zone	1.00
SeA:						
Seabrook------------	Very limited		Very limited		Somewhat limited	
	Too sandy	1.00	Too sandy	1.00	Droughty	0.85
					Depth to saturated zone	0.19
TeA:						
Tetotum-------------	Not limited		Not limited		Somewhat limited	
					Depth to saturated zone	0.19

Table 10b.—Recreational Development (Part 2)—Continued

Map symbol and soil name	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
TmA:						
Tetotum-------------	Not limited		Not limited		Somewhat limited	
					Depth to saturated zone	0.19
Urban land----------	Not rated		Not rated		Not rated	
ToA:						
Tomotley------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too sandy	0.01	Too sandy	0.01		
TuA:						
Tomotley------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too sandy	0.01	Too sandy	0.01		
Portsmouth----------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Urban land----------	Not rated		Not rated		Not rated	
UdA:						
Udorthents, loamy---	Not limited		Not limited		Not limited	
Ur:						
Urban land----------	Not rated		Not rated		Not rated	
WaA:						
Wahee---------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.99	Depth to saturated zone	0.99	Depth to saturated zone	0.99
WcA:						
Wasda---------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Conaby--------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Organic matter content	1.00
	Organic matter content	1.00	Organic matter content	1.00	Depth to saturated zone	1.00
WeA:						
Weeksville----------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
YeA:						
Yeopim--------------	Not limited		Not limited		Somewhat limited	
					Depth to saturated zone	0.19

Table 11.—Hydric Soils

(This report lists only those map unit components that are rated as hydric. Dashes (---) in any column indicate that the data were not included in the database. Definitions of hydric criteria codes are included at the end of the report)

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
ApA:					
Arapahoe fine sandy loam, 0 to 2 percent slopes	Arapahoe, drained	80	Flats	Yes	2B3
	Arapahoe, undrained	10	Flats	Yes	2B3
BcA:					
Belhaven muck, 0 to 2 percent slopes	Belhaven, drained	80	Pocosins	Yes	1
	Belhaven, undrained	10	Pocosins	Yes	1
CaA:					
Cape Lookout silt loam, 0 to 2 percent slopes	Cape Lookout, drained	80	Depressions	Yes	2B3
	Cape Lookout, undrained	10	Depressions	Yes	2B3
CfA:					
Cape Lookout mucky silt loam, 0 to 2 percent slopes	Cape Lookout, drained	80	Depressions	Yes	2B3
	Cape Lookout, undrained	10	Depressions	Yes	2B3
CwA:					
Chowan silt loam, 0 to 2 percent slopes, frequently flooded	Chowan, undrained	90	Flood plains	Yes	2B3, 4
DeA:					
Deloss mucky fine sandy loam, 0 to 2 percent slopes	Deloss, drained	80	Depressions, flats	Yes	2B3
	Deloss, undrained	10	Depressions, flats	Yes	2B3
DoA:					
Dorovan muck, 0 to 2 percent slopes, frequently flooded	Dorovan, undrained	90	Flood plains	Yes	1, 4
GeA:					
Gertie fine sandy loam, 0 to 2 percent slopes	Gertie, drained	80	Depressions, marine terraces	Yes	2B3
	Gertie, undrained	10	Depressions, marine terraces	Yes	2B3
GrA:					
Gertie silt loam, 0 to 2 percent slopes	Gertie, drained	80	Depressions, marine terraces	Yes	2B3
	Gertie, undrained	10	Depressions, marine terraces	Yes	2B3
GtA:					
Gertie silt loam, 0 to 2 percent slopes, frequently flooded	Gertie, undrained	80	Depressions, marine terraces	Yes	2B3
	Gertie, drained	10	Depressions, marine terraces	Yes	2B3

Table 11.—Hydric Soils—Continued

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
HyA:					
Hyde mucky silt loam, 0 to 2 percent slopes	Hyde, drained	80	Flats	Yes	2B3
	Hyde, undrained	10	Flats	Yes	2B3
NmA:					
Nimmo fine sandy loam, 0 to 2 percent slopes	Nimmo, drained	80	Depressions, marine terraces	Yes	2B3
	Nimmo, undrained	10	Depressions, marine terraces	Yes	2B3
PaA:					
Pasquotank silt loam, 0 to 2 percent slopes	Pasquotank, drained	80	Flats, marine terraces	Yes	2B3
	Pasquotank, undrained	10	Flats, marine terraces	Yes	2B3
PeA:					
Perquimans silt loam, 0 to 2 percent slopes	Perquimans, drained	80	Flats, marine terraces	Yes	2B3
	Perquimans, undrained	10	Flats, marine terraces	Yes	2B3
PgA:					
Pettigrew muck, 0 to 2 percent slopes	Pettigrew, drained	80	Depressions, flats, pocosins	Yes	2B3
	Pettigrew, undrained	10	Depressions, flats, pocosins	Yes	2B3
PoA:					
Portsmouth fine sandy loam, 0 to 2 percent slopes	Portsmouth, drained	80	Flats, marine terraces	Yes	2B3
	Portsmouth, undrained	10	Flats, marine terraces	Yes	2B3
PrA:					
Portsmouth mucky fine sandy loam, 0 to 2 percent slopes	Portsmouth, drained	80	Flats, marine terraces	Yes	2B3
	Portsmouth, undrained	10	Flats, marine terraces	Yes	2B3
PuA:					
Pungo muck, 0 to 2 percent slopes	Pungo, undrained	60	Pocosins	Yes	1
	Pungo, drained	30	Pocosins	Yes	1
RoA:					
Roper muck, 0 to 2 percent slopes	Roper, drained	80	Depressions, flats, marine terraces	Yes	2B3
	Roper, undrained	10	Depressions, flats, marine terraces	Yes	2B3

Table 11.—Hydric Soils—Continued

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
ToA: Tomotley fine sandy loam, 0 to 2 percent slopes	Tomotley, drained	80	Flats, marine terraces	Yes	2B3
	Tomotley, undrained	10	Flats, marine terraces	Yes	2B3
TuA: Tomotley-Portsmouth-Urban land complex, 0 to 2 percent slopes	Portsmouth, drained	30	Flats, marine terraces	Yes	2B3
	Tomotley, drained	30	Flats, marine terraces	Yes	2B3
WcA: Wasda-Conaby complex, 0 to 2 percent slopes	Wasda, drained	60	Flats, marine terraces	Yes	2B3
	Conaby, drained	20	Pocosins	Yes	2B3
	Wasda, undrained	5	Flats, marine terraces	Yes	2B3
	Conaby, undrained	5	Pocosins	Yes	2B3
WeA: Weeksville silt loam, 0 to 2 percent slopes	Weeksville, drained	80	Depressions, marine terraces	Yes	2B3
	Weeksville, undrained	10	Depressions, marine terraces	Yes	2B3

Explanation of hydric criteria codes:

1. All Histels except for Folistels, and Histosols except for Folists.
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
   - A. are somewhat poorly drained and have a water table at the surface (0.0 feet) during the growing season, or
   - B. are poorly drained or very poorly drained and have either:
     - 1.) a water table at the surface (0.0 feet) during the growing season if textures are coarse sand, sand, or fine sand in all layers within a depth of 20 inches, or
     - 2.) a water table at a depth of 0.5 foot or less during the growing season if permeability is equal to or greater than 6.0 in/hr in all layers within a depth of 20 inches, or
     - 3.) a water table at a depth of 1.0 foot or less during the growing season if permeability is less than 6.0 in/hr in any layer within a depth of 20 inches.
3. Soils that are frequently ponded for long or very long duration during the growing season.
4. Soils that are frequently flooded for long or very long duration during the growing season.

Table 12a.—Building Site Development (Part 1)

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
ApA:						
Arapahoe	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
BaA:						
Barclay	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
BcA:						
Belhaven	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
BeA:						
Bertie	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
BgA:						
Bertie	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Urban land	Not rated		Not rated		Not rated	
BoA:						
Bojac	Not limited		Somewhat limited		Not limited	
			Depth to saturated zone	0.61		
CaA:						
Cape Lookout	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.56	Shrink-swell	0.56	Shrink-swell	0.56
CfA:						
Cape Lookout	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.56	Shrink-swell	0.56	Shrink-swell	0.56
ChA:						
Chapanoke	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
CsA:						
Chesapeake	Not limited		Somewhat limited		Not limited	
			Depth to saturated zone	0.61		

Table 12a.—Building Site Development (Part 1)—Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
CwA:						
Chowan----------------	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Organic matter content	1.00		
DeA:						
Deloss----------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
DoA:						
Dorovan---------------	Very limited		Very limited		Very limited	
	Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Organic matter content	1.00	Organic matter content	1.00	Organic matter content	1.00
DrA:						
Dragston--------------	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.81	Depth to saturated zone	1.00	Depth to saturated zone	0.81
DuA:						
Dragston--------------	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.81	Depth to saturated zone	1.00	Depth to saturated zone	0.81
Urban land------------	Not rated		Not rated		Not rated	
GeA:						
Gertie----------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
GrA:						
Gertie----------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
GtA:						
Gertie----------------	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
HyA:						
Hyde------------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 12a.—Building Site Development (Part 1)—Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
MuA:						
Munden	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.39	Depth to saturated zone	1.00	Depth to saturated zone	0.39
NmA:						
Nimmo	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
NxA:						
Nixonton	Not limited		Somewhat limited		Not limited	
			Depth to saturated zone	0.61		
Yeopim	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.39	Depth to saturated zone	1.00	Depth to saturated zone	0.39
PaA:						
Pasquotank	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
PeA:						
Perquimans	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
PgA:						
Pettigrew	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50			Shrink-swell	0.50
PoA:						
Portsmouth	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
PrA:						
Portsmouth	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
PuA:						
Pungo	Very limited		Very limited		Very limited	
	Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Organic matter content	1.00			Organic matter content	1.00
RoA:						
Roper	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 12a.—Building Site Development (Part 1)—Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
SeA:						
Seabrook	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.39	Depth to saturated zone	1.00	Depth to saturated zone	0.39
TeA:						
Tetotum	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.39	Depth to saturated zone	1.00	Depth to saturated zone	0.39
TmA:						
Tetotum	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.39	Depth to saturated zone	1.00	Depth to saturated zone	0.39
Urban land	Not rated		Not rated		Not rated	
ToA:						
Tomotley	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
TuA:						
Tomotley	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Portsmouth	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Urban land	Not rated		Not rated		Not rated	
UdA:						
Udorthents, loamy	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Ur:						
Urban land	Not rated		Not rated		Not rated	
WaA:						
Wahee	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50			Shrink-swell	0.50
WcA:						
Wasda	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Conaby	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
WeA:						
Weeksville	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 12a.—Building Site Development (Part 1)—Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
YeA:						
Yeopim--------------	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.39	Depth to saturated zone	1.00	Depth to saturated zone	0.39

Table 12b.—Building Site Development (Part 2)

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
ApA:						
Arapahoe	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Cutbanks cave	1.00		
BaA:						
Barclay	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Cutbanks cave	1.00		
BcA:						
Belhaven	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Subsidence	1.00	Organic matter content	1.00		
			Cutbanks cave	0.10		
BeA:						
Bertie	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Low strength	0.78	Cutbanks cave	1.00		
BgA:						
Bertie	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Low strength	0.78	Cutbanks cave	1.00		
Urban land	Not rated		Not rated		Not rated	
BoA:						
Bojac	Not limited		Very limited		Not limited	
			Cutbanks cave	1.00		
			Depth to saturated zone	0.61		
CaA:						
Cape Lookout	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Low strength	1.00	Too clayey	0.88		
	Shrink-swell	0.56	Cutbanks cave	0.10		
CfA:						
Cape Lookout	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Low strength	1.00	Too clayey	0.88		
	Shrink-swell	0.56	Cutbanks cave	0.10		

Table 12b.—Building Site Development (Part 2)—Continued

Map symbol and soil name	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
ChA:						
Chapanoke-----------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Low strength	1.00	Cutbanks cave	1.00		
CsA:						
Chesapeake----------	Not limited		Very limited		Not limited	
			Cutbanks cave	1.00		
			Depth to saturated zone	0.61		
CwA:						
Chowan--------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Flooding	1.00	Organic matter content	1.00	Depth to saturated zone	1.00
			Flooding	0.80		
DeA:						
Deloss--------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Cutbanks cave	0.10		
DoA:						
Dorovan-------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Subsidence	1.00	Organic matter content	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	0.80		
DrA:						
Dragston------------	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.48	Depth to saturated zone	1.00	Depth to saturated zone	0.48
			Cutbanks cave	1.00		
DuA:						
Dragston------------	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.48	Depth to saturated zone	1.00	Depth to saturated zone	0.48
			Cutbanks cave	1.00		
Urban land----------	Not rated		Not rated		Not rated	
GeA:						
Gertie--------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Low strength	1.00	Too clayey	0.28		
	Shrink-swell	0.50	Cutbanks cave	0.10		
GrA:						
Gertie--------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Low strength	1.00	Cutbanks cave	1.00		
	Shrink-swell	0.50	Too clayey	0.12		

Table 12b.—Building Site Development (Part 2)—Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
GtA:						
Gertie	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Flooding	1.00	Cutbanks cave	1.00	Depth to saturated zone	1.00
	Low strength	1.00	Flooding	0.80		
	Shrink-swell	0.50	Too clayey	0.12		
HyA:						
Hyde	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Low strength	1.00	Cutbanks cave	0.10		
MuA:						
Munden	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.19	Depth to saturated zone	1.00	Depth to saturated zone	0.19
			Cutbanks cave	1.00		
NmA:						
Nimmo	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Cutbanks cave	1.00		
NxA:						
Nixonton	Very limited		Somewhat limited		Not limited	
	Low strength	1.00	Depth to saturated zone	0.61		
			Cutbanks cave	0.10		
Yeopim	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.19
	Depth to saturated zone	0.19	Cutbanks cave	1.00		
PaA:						
Pasquotank	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Cutbanks cave	0.10		
PeA:						
Perquimans	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Low strength	1.00	Cutbanks cave	0.10		
PgA:						
Pettigrew	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Low strength	1.00	Too clayey	0.28		
	Shrink-swell	0.50	Cutbanks cave	0.10		

Table 12b.—Building Site Development (Part 2)—Continued

Map symbol and soil name	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
PoA:						
Portsmouth----------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Cutbanks cave	1.00		
PrA:						
Portsmouth----------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Cutbanks cave	1.00		
PuA:						
Pungo---------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Organic matter content	1.00
	Subsidence	1.00	Organic matter content	1.00	Depth to saturated zone	1.00
					Too acid	1.00
RoA:						
Roper---------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Low strength	1.00	Cutbanks cave	1.00		
SeA:						
Seabrook------------	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.19	Depth to saturated zone	1.00	Droughty	0.85
			Cutbanks cave	1.00	Depth to saturated zone	0.19
TeA:						
Tetotum-------------	Somewhat limited		Very limited		Somewhat limited	
	Low strength	0.22	Depth to saturated zone	1.00	Depth to saturated zone	0.19
	Depth to saturated zone	0.19	Cutbanks cave	0.10		
TmA:						
Tetotum-------------	Somewhat limited		Very limited		Somewhat limited	
	Low strength	0.22	Depth to saturated zone	1.00	Depth to saturated zone	0.19
	Depth to saturated zone	0.19	Cutbanks cave	0.10		
Urban land----------	Not rated		Not rated		Not rated	
ToA:						
Tomotley------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Cutbanks cave	1.00		
TuA:						
Tomotley------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Cutbanks cave	1.00		

Table 12b.—Building Site Development (Part 2)—Continued

Map symbol and soil name	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
Portsmouth	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Cutbanks cave	1.00		
Urban land	Not rated		Not rated		Not rated	
UdA:						
Udorthents, loamy	Somewhat limited		Somewhat limited		Not limited	
	Shrink-swell	0.50	Cutbanks cave	0.10		
	Low strength	0.22				
Ur:						
Urban land	Not rated		Not rated		Not rated	
WaA:						
Wahee	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
	Depth to saturated zone	0.99	Too clayey	0.32		
	Shrink-swell	0.50	Cutbanks cave	0.10		
WcA:						
Wasda	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Cutbanks cave	0.10		
Conaby	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Organic matter content	1.00
			Cutbanks cave	0.10	Depth to saturated zone	1.00
WeA:						
Weeksville	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Cutbanks cave	0.10		
YeA:						
Yeopim	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.19
	Depth to saturated zone	0.19	Cutbanks cave	0.10		

Table 13a.—Sanitary Facilities (Part 1)

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
ApA:				
Arapahoe------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
BaA:				
Barclay-------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.50		
BcA:				
Belhaven------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	1.00	Organic matter content	1.00
BeA:				
Bertie--------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
	Seepage, bottom layer	1.00	Depth to saturated zone	1.00
	Slow water movement	0.50		
BgA:				
Bertie--------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
	Seepage, bottom layer	1.00	Depth to saturated zone	1.00
	Slow water movement	0.50		
Urban land----------	Not rated		Not rated	
BoA:				
Bojac---------------	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
	Depth to saturated zone	0.99	Depth to saturated zone	0.71

Table 13a.—Sanitary Facilities (Part 1)—Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
CaA:				
Cape Lookout	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	1.00
	Seepage, bottom layer	1.00		
CfA:				
Cape Lookout	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	1.00
	Seepage, bottom layer	1.00		
ChA:				
Chapanoke	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00		
CsA:				
Chesapeake	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
	Depth to saturated zone	0.99	Depth to saturated zone	0.71
	Slow water movement	0.50		
CwA:				
Chowan	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
			Organic matter content	1.00
DeA:				
Deloss	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.50		

Table 13a.—Sanitary Facilities (Part 1)—Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
DoA:				
Dorovan-------------	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Organic matter content	1.00
	Subsidence	1.00	Depth to saturated zone	1.00
	Slow water movement	0.50	Seepage	0.50
DrA:				
Dragston------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
	Seepage, bottom layer	1.00	Depth to saturated zone	1.00
DuA:				
Dragston------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
	Seepage, bottom layer	1.00	Depth to saturated zone	1.00
Urban land----------	Not rated		Not rated	
GeA:				
Gertie--------------	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	1.00
	Seepage, bottom layer	1.00		
GrA:				
Gertie--------------	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	1.00
	Seepage, bottom layer	1.00		
GtA:				
Gertie--------------	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	1.00
	Seepage, bottom layer	1.00		
HyA:				
Hyde----------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Seepage	0.50

Table 13a.—Sanitary Facilities (Part 1)—Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
MuA:				
Munden	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
NmA:				
Nimmo	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
NxA:				
Nixonton	Very limited		Very limited	
	Slow water movement	1.00	Seepage	1.00
	Seepage, bottom layer	1.00	Depth to saturated zone	0.71
	Depth to saturated zone	0.99		
Yeopim	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Seepage	1.00
	Seepage, bottom layer	1.00		
PaA:				
Pasquotank	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.50	Seepage	0.50
PeA:				
Perquimans	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00		
PgA:				
Pettigrew	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	1.00
	Seepage, bottom layer	1.00	Organic matter content	1.00

Table 13a.—Sanitary Facilities (Part 1)—Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
PoA:				
Portsmouth----------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.50		
PrA:				
Portsmouth----------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.50		
PuA:				
Pungo---------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Subsidence	1.00	Seepage	1.00
	Seepage, bottom layer	1.00	Organic matter content	1.00
RoA:				
Roper---------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Seepage	1.00
	Seepage, bottom layer	1.00	Organic matter content	1.00
SeA:				
Seabrook------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
	Seepage, bottom layer	1.00	Depth to saturated zone	1.00
	Filtering capacity	1.00		
TeA:				
Tetotum-------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.50		
TmA:				
Tetotum-------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.50		

Table 13a.—Sanitary Facilities (Part 1)—Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
Urban land	Not rated		Not rated	
ToA:				
Tomotley	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.68		
TuA:				
Tomotley	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.68		
Portsmouth	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.50		
Urban land	Not rated		Not rated	
UdA:				
Udorthents, loamy	Somewhat limited		Somewhat limited	
	Slow water movement	0.82	Seepage	0.18
Ur:				
Urban land	Not rated		Not rated	
WaA:				
Wahee	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	1.00
	Seepage, bottom layer	1.00		
WcA:				
Wasda	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.50	Organic matter content	1.00
			Seepage	0.50

Table 13a.—Sanitary Facilities (Part 1)—Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
Conaby--------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
			Organic matter content	1.00
WeA:				
Weeksville----------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.50	Seepage	0.50
YeA:				
Yeopim--------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Seepage	1.00
	Seepage, bottom layer	1.00		

Table 13b.—Sanitary Facilities (Part 2)

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
ApA:						
Arapahoe	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
	Too sandy	0.50			Too sandy	0.50
BaA:						
Barclay	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00				
BcA:						
Belhaven	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Seepage	1.00		
BeA:						
Bertie	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
	Too sandy	0.50			Too sandy	0.50
BgA:						
Bertie	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
	Too sandy	0.50			Too sandy	0.50
Urban land	Not rated		Not limited		Not rated	
BoA:						
Bojac	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	1.00
	Seepage, bottom layer	1.00	Seepage	1.00		
CaA:						
Cape Lookout	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	1.00			Too clayey	1.00
	Seepage, bottom layer	1.00			Seepage	1.00

Table 13b.—Sanitary Facilities (Part 2)—Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CfA:						
Cape Lookout	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	1.00			Too clayey	1.00
	Seepage, bottom layer	1.00			Seepage	1.00
ChA:						
Chapanoke	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
CsA:						
Chesapeake	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	0.21
	Seepage, bottom layer	1.00	Seepage	1.00		
CwA:						
Chowan	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Organic matter content	1.00
	Organic matter content	1.00	Seepage	1.00	Seepage	0.16
	Seepage, bottom layer	1.00				
DeA:						
Deloss	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00			Seepage	1.00
DoA:						
Dorovan	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Organic matter content	1.00
	Organic matter content	1.00				
DrA:						
Dragston	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	1.00
	Seepage, bottom layer	1.00	Seepage	1.00	Depth to saturated zone	0.96
DuA:						
Dragston	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	1.00
	Seepage, bottom layer	1.00	Seepage	1.00	Depth to saturated zone	0.96

Table 13b.—Sanitary Facilities (Part 2)—Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Urban land----------	Not rated		Not limited		Not rated	
GeA:						
Gertie--------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	1.00			Too clayey	1.00
	Seepage, bottom layer	1.00			Hard to compact	1.00
GrA:						
Gertie--------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	1.00			Too clayey	1.00
	Seepage, bottom layer	1.00			Hard to compact	1.00
					Seepage	1.00
GtA:						
Gertie--------------	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
	Too clayey	1.00			Hard to compact	1.00
	Seepage, bottom layer	1.00			Seepage	1.00
HyA:						
Hyde----------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50
MuA:						
Munden--------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too sandy	1.00
	Too sandy	1.00	Seepage	1.00	Seepage	1.00
	Seepage, bottom layer	1.00			Depth to saturated zone	0.86
NmA:						
Nimmo---------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too sandy	1.00	Seepage	1.00	Too sandy	1.00
	Seepage, bottom layer	1.00			Seepage	1.00
NxA:						
Nixonton------------	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	0.99
	Seepage, bottom layer	1.00			Too clayey	0.50

Table 13b.—Sanitary Facilities (Part 2)—Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Yeopim	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.86
	Seepage, bottom layer	1.00			Too clayey	0.50
	Too clayey	0.50				
PaA:						
Pasquotank	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
PeA:						
Perquimans	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50
PgA:						
Pettigrew	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
PoA:						
Portsmouth	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
	Too sandy	0.50			Too sandy	0.50
PrA:						
Portsmouth	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
	Too sandy	0.50			Too sandy	0.50
PuA:						
Pungo	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Organic matter content	1.00	Seepage	1.00	Organic matter content	1.00
	Too acid	1.00			Too acid	1.00
	Seepage, bottom layer	1.00			Seepage	0.21
RoA:						
Roper	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too sandy	1.00			Too sandy	1.00
	Seepage, bottom layer	1.00			Seepage	1.00

Table 13b.—Sanitary Facilities (Part 2)—Continued

Map symbol and soil name	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
SeA:						
Seabrook	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too sandy	1.00
	Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
	Too sandy	1.00			Depth to saturated zone	0.86
TeA:						
Tetotum	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	1.00
	Seepage, bottom layer	1.00			Depth to saturated zone	0.86
	Too clayey	0.50			Too clayey	0.50
TmA:						
Tetotum	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	1.00
	Seepage, bottom layer	1.00			Depth to saturated zone	0.86
	Too clayey	0.50			Too clayey	0.50
Urban land	Not rated		Not limited		Not rated	
ToA:						
Tomotley	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00				
TuA:						
Tomotley	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00				
Portsmouth	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
	Too sandy	0.50			Too sandy	0.50
Urban land	Not rated		Not limited		Not rated	
UdA:						
Udorthents, loamy	Not limited		Not limited		Not limited	
Ur:						
Urban land	Not rated		Not limited		Not rated	

Table 13b.—Sanitary Facilities (Part 2)—Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WaA:						
Wahee	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00			Seepage	0.99
WcA:						
Wasda	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50
Conaby	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
WeA:						
Weeksville	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
YeA:						
Yeopim	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	0.99
	Seepage, bottom layer	1.00			Depth to saturated zone	0.86
					Too clayey	0.50

Table 14a.—Construction Materials (Part 1)

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table.)

Map symbol and soil name	Potential source of gravel		Potential source of sand	
	Rating class	Value	Rating class	Value
ApA:				
Arapahoe	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.07
BaA:				
Barclay	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.10
BcA:				
Belhaven	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.03
BeA:				
Bertie	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.10
BgA:				
Bertie	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.10
Urban land	Not rated		Not rated	
BoA:				
Bojac	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.02
	Thickest layer	0.00	Bottom layer	0.02
CaA:				
Cape Lookout	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
CfA:				
Cape Lookout	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
ChA:				
Chapanoke	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.12
CsA:				
Chesapeake	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.04
	Thickest layer	0.00	Bottom layer	0.30

Table 14a.—Construction Materials (Part 1)—Continued

Map symbol and soil name	Potential source of gravel		Potential source of sand	
	Rating class	Value	Rating class	Value
CwA:				
Chowan--------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
DeA:				
Deloss--------------	Poor		Poor	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.00
DoA:				
Dorovan-------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
	Organic matter content	0.00	Organic matter content	0.00
DrA:				
Dragston------------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.03
	Thickest layer	0.00	Bottom layer	0.10
DuA:				
Dragston------------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.03
	Thickest layer	0.00	Bottom layer	0.10
Urban land----------	Not rated		Not rated	
GeA:				
Gertie--------------	Poor		Poor	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.00
GrA:				
Gertie--------------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.10
GtA:				
Gertie--------------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.10
HyA:				
Hyde----------------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.04
MuA:				
Munden--------------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.36
NmA:				
Nimmo---------------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.01
	Thickest layer	0.00	Bottom layer	0.64

Table 14a.—Construction Materials (Part 1)—Continued

Map symbol and soil name	Potential source of gravel		Potential source of sand	
	Rating class	Value	Rating class	Value
NxA:				
Nixonton------------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.04
Yeopim--------------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.07
PaA:				
Pasquotank----------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
PeA:				
Perquimans----------	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
PgA:				
Pettigrew-----------	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
PoA:				
Portsmouth----------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.07
PrA:				
Portsmouth----------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.10
PuA:				
Pungo---------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
RoA:				
Roper---------------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.11
SeA:				
Seabrook------------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.13
	Thickest layer	0.00	Bottom layer	0.64
TeA:				
Tetotum-------------	Poor		Poor	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.00
TmA:				
Tetotum-------------	Poor		Poor	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.00
Urban land----------	Not rated		Not rated	

Table 14a.—Construction Materials (Part 1)—Continued

Map symbol and soil name	Potential source of gravel		Potential source of sand	
	Rating class	Value	Rating class	Value
ToA:				
Tomotley------------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.10
TuA:				
Tomotley------------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.10
Portsmouth----------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.07
Urban land----------	Not rated		Not rated	
UdA:				
Udorthents, loamy---	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Ur:				
Urban land----------	Not rated		Not rated	
WaA:				
Wahee---------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
WcA:				
Wasda---------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Conaby--------------	Poor		Fair	
	Bottom layer	0.00	Bottom layer	0.02
	Thickest layer	0.00	Thickest layer	0.03
WeA:				
Weeksville----------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
YeA:				
Yeopim--------------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.04

Table 14b.—Construction Materials (Part 2)

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
ApA:						
Arapahoe	Fair		Poor		Poor	
	Too acid	0.46	Wetness depth	0.00	Wetness depth	0.00
	Organic matter content low	0.88			Too acid	0.99
BaA:						
Barclay	Fair		Poor		Poor	
	Organic matter content low	0.12	Wetness depth	0.00	Wetness depth	0.00
	Water erosion	0.37			Too acid	0.98
	Too acid	0.54				
BcA:						
Belhaven	Poor		Poor		Poor	
	Wind erosion	0.00	Wetness depth	0.00	Wetness depth	0.00
	Too acid	0.00			Too acid	0.24
BeA:						
Bertie	Fair		Poor		Poor	
	Organic matter content low	0.12	Wetness depth	0.00	Wetness depth	0.00
	Too acid	0.50			Rock fragments	0.97
BgA:						
Bertie	Fair		Poor		Poor	
	Organic matter content low	0.12	Wetness depth	0.00	Wetness depth	0.00
	Too acid	0.50			Rock fragments	0.97
Urban land	Not rated		Not rated		Not rated	
BoA:						
Bojac	Poor		Good		Fair	
	Wind erosion	0.00			Too acid	0.76
	Organic matter content low	0.12				
	Too acid	0.20				
CaA:						
Cape Lookout	Poor		Poor		Poor	
	Too clayey	0.00	Wetness depth	0.00	Wetness depth	0.00
	Organic matter content low	0.12	Shrink-swell	0.99	Too clayey	0.00
	Too acid	0.46			Too acid	0.95
CfA:						
Cape Lookout	Poor		Poor		Poor	
	Too clayey	0.00	Wetness depth	0.00	Wetness depth	0.00
	Too acid	0.46	Shrink-swell	0.97	Too clayey	0.00
					Too acid	0.95

Table 14b.—Construction Materials (Part 2)—Continued

Map symbol and soil name	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
ChA:						
Chapanoke-----------	Fair		Poor		Poor	
	Organic matter content low	0.12	Wetness depth	0.00	Wetness depth	0.00
	Too acid	0.46	Low strength	0.00	Too acid	0.95
	Water erosion	0.68				
CsA:						
Chesapeake----------	Fair		Good		Fair	
	Too acid	0.46			Too acid	0.95
	Organic matter content low	0.88				
CwA:						
Chowan--------------	Fair		Poor		Poor	
	Too acid	0.84	Wetness depth	0.00	Wetness depth	0.00
DeA:						
Deloss--------------	Fair		Poor		Poor	
	Too acid	0.12	Wetness depth	0.00	Wetness depth	0.00
					Too acid	0.59
DoA:						
Dorovan-------------	Fair		Poor		Not rated	
	Too acid	0.50	Wetness depth	0.00		
DrA:						
Dragston------------	Fair		Fair		Fair	
	Organic matter content low	0.12	Wetness depth	0.29	Wetness depth	0.29
	Too acid	0.20			Too acid	0.95
DuA:						
Dragston------------	Fair		Fair		Fair	
	Organic matter content low	0.12	Wetness depth	0.29	Wetness depth	0.29
	Too acid	0.20			Too acid	0.95
Urban land----------	Not rated		Not rated		Not rated	
GeA:						
Gertie--------------	Poor		Poor		Poor	
	Too clayey	0.00	Wetness depth	0.00	Wetness depth	0.00
	Too acid	0.12	Low strength	0.00	Too clayey	0.00
	Organic matter content low	0.12	Shrink-swell	0.87	Too acid	0.59
	Water erosion	0.99				
GrA:						
Gertie--------------	Poor		Poor		Poor	
	Too clayey	0.00	Wetness depth	0.00	Wetness depth	0.00
	Too acid	0.12	Shrink-swell	0.87	Too clayey	0.00
	Organic matter content low	0.12			Too acid	0.59
	Water erosion	0.37				

Table 14b.—Construction Materials (Part 2)—Continued

Map symbol and soil name	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
GtA:						
Gertie----------------	Poor		Poor		Poor	
	Too clayey	0.00	Wetness depth	0.00	Wetness depth	0.00
	Too acid	0.12	Shrink-swell	0.87	Too clayey	0.00
	Organic matter content low	0.12			Too acid	0.59
	Water erosion	0.37				
HyA:						
Hyde------------------	Fair		Poor		Poor	
	Too acid	0.01	Wetness depth	0.00	Wetness depth	0.00
	Water erosion	0.90	Low strength	0.00	Too acid	0.24
MuA:						
Munden----------------	Fair		Fair		Fair	
	Organic matter content low	0.12	Wetness depth	0.53	Wetness depth	0.53
	Too acid	0.50			Too acid	0.76
	Water erosion	0.90				
NmA:						
Nimmo-----------------	Fair		Poor		Poor	
	Organic matter content low	0.12	Wetness depth	0.00	Wetness depth	0.00
	Too acid	0.50			Too acid	0.95
NxA:						
Nixonton--------------	Fair		Good		Good	
	Organic matter content low	0.12				
	Water erosion	0.37				
	Too acid	0.84				
Yeopim----------------	Fair		Poor		Fair	
	Organic matter content low	0.12	Low strength	0.00	Wetness depth	0.53
	Too acid	0.20	Wetness depth	0.53	Too acid	0.76
	Water erosion	0.37				
PaA:						
Pasquotank------------	Fair		Poor		Poor	
	Too acid	0.20	Wetness depth	0.00	Wetness depth	0.00
	Water erosion	0.37			Too acid	0.76
	Organic matter content low	0.50				
PeA:						
Perquimans------------	Fair		Poor		Poor	
	Water erosion	0.37	Wetness depth	0.00	Wetness depth	0.00
	Organic matter content low	0.50	Low strength	0.00	Too acid	0.99
	Too acid	0.61				
PgA:						
Pettigrew-------------	Poor		Poor		Poor	
	Wind erosion	0.00	Wetness depth	0.00	Wetness depth	0.00
	Organic matter content low	0.12	Shrink-swell	0.98	Too acid	0.24
	Too acid	0.50				

Table 14b.—Construction Materials (Part 2)—Continued

Map symbol and soil name	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
PoA:						
Portsmouth----------	Fair		Poor		Poor	
	Too acid	0.50	Wetness depth	0.00	Wetness depth	0.00
	Organic matter content low	0.88			Too acid	0.68
PrA:						
Portsmouth----------	Fair		Poor		Poor	
	Too acid	0.08	Wetness depth	0.00	Wetness depth	0.00
	Organic matter content low	0.88			Too acid	0.68
PuA:						
Pungo---------------	Poor		Poor		Not rated	
	Wind erosion	0.00	Wetness depth	0.00		
	Too acid	0.00				
RoA:						
Roper---------------	Poor		Poor		Poor	
	Wind erosion	0.00	Wetness depth	0.00	Wetness depth	0.00
	Too acid	0.00			Too acid	0.76
	Organic matter content low	0.12				
SeA:						
Seabrook------------	Poor		Fair		Poor	
	Wind erosion	0.00	Wetness depth	0.53	Too sandy	0.00
	Too sandy	0.00			Wetness depth	0.53
	Organic matter content low	0.12			Too acid	0.68
	Too acid	0.50				
	Droughty	0.82				
TeA:						
Tetotum-------------	Fair		Fair		Fair	
	Too acid	0.12	Wetness depth	0.53	Wetness depth	0.53
	Organic matter content low	0.12			Too acid	0.95
TmA:						
Tetotum-------------	Fair		Fair		Fair	
	Too acid	0.12	Wetness depth	0.53	Wetness depth	0.53
	Organic matter content low	0.12			Too acid	0.95
Urban land----------	Not rated		Not rated		Not rated	
ToA:						
Tomotley------------	Fair		Poor		Poor	
	Too acid	0.08	Wetness depth	0.00	Wetness depth	0.00
	Organic matter content low	0.12			Too acid	0.50
TuA:						
Tomotley------------	Fair		Poor		Poor	
	Too acid	0.08	Wetness depth	0.00	Wetness depth	0.00
	Organic matter content low	0.12			Too acid	0.50

Table 14b.—Construction Materials (Part 2)—Continued

Map symbol and soil name	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
Portsmouth----------	Fair		Poor		Poor	
	Too acid	0.50	Wetness depth	0.00	Wetness depth	0.00
	Organic matter content low	0.88			Too acid	0.68
Urban land----------	Not rated		Not rated		Not rated	
UdA:						
Udorthents, loamy---	Fair		Fair		Fair	
	Organic matter content low	0.50	Low strength	0.78	Too acid	0.95
	Too acid	0.50	Shrink-swell	0.87		
Ur:						
Urban land----------	Not rated		Not rated		Not rated	
WaA:						
Wahee---------------	Poor		Poor		Poor	
	Too clayey	0.00	Wetness depth	0.00	Too clayey	0.00
	Organic matter content low	0.12	Shrink-swell	0.99	Wetness depth	0.00
	Too acid	0.46			Too acid	0.95
	Water erosion	0.90				
WcA:						
Wasda---------------	Poor		Poor		Poor	
	Wind erosion	0.00	Wetness depth	0.00	Wetness depth	0.00
	Too acid	0.50			Too acid	0.59
	Organic matter content low	0.50				
Conaby--------------	Poor		Poor		Poor	
	Wind erosion	0.00	Wetness depth	0.00	Wetness depth	0.00
	Too acid	0.12			Too acid	0.59
WeA:						
Weeksville----------	Fair		Poor		Poor	
	Too acid	0.20	Wetness depth	0.00	Wetness depth	0.00
	Water erosion	0.68			Too acid	0.76
YeA:						
Yeopim--------------	Fair		Fair		Fair	
	Organic matter content low	0.12	Wetness depth	0.53	Wetness depth	0.53
	Too acid	0.20			Too acid	0.76
	Water erosion	0.68				

Table 15.—Water Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
ApA:						
Arapahoe	Very limited		Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
			Seepage	0.07		
BaA:						
Barclay	Very limited		Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
			Piping	1.00		
			Seepage	0.10		
BcA:						
Belhaven	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	0.10
			Seepage	0.03		
BeA:						
Bertie	Very limited		Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
			Seepage	0.10		
BgA:						
Bertie	Very limited		Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
			Seepage	0.10		
Urban land	Not limited		Not rated		Not rated	
BoA:						
Bojac	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.02	Cutbanks cave	1.00
					Depth to saturated zone	0.81
CaA:						
Cape Lookout	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	0.10
			Piping	0.14		
CfA:						
Cape Lookout	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	0.10
			Piping	0.04		

Table 15.—Water Management—Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
ChA:						
Chapanoke-----------	Somewhat limited		Very limited		Very limited	
	Seepage	0.57	Depth to saturated zone	1.00	Cutbanks cave	1.00
			Piping	0.99	Slow refill	0.43
			Seepage	0.12		
CsA:						
Chesapeake----------	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.30	Cutbanks cave	1.00
					Depth to saturated zone	0.81
CwA:						
Chowan--------------	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Organic matter content	1.00	Cutbanks cave	0.10
			Depth to saturated zone	1.00		
DeA:						
Deloss--------------	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	0.10
			Seepage	0.01		
DoA:						
Dorovan-------------	Somewhat limited		Not rated		Somewhat limited	
	Seepage	0.70			Slow refill	0.30
					Cutbanks cave	0.10
DrA:						
Dragston------------	Very limited		Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
			Seepage	0.10		
DuA:						
Dragston------------	Very limited		Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
			Seepage	0.10		
Urban land----------	Not limited		Not rated		Not rated	
GeA:						
Gertie--------------	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	0.10
			Seepage	0.01		
GrA:						
Gertie--------------	Very limited		Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
			Piping	0.59		
			Seepage	0.10		

Table 15.—Water Management—Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
GtA:						
Gertie----------------	Very limited		Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
			Piping	0.59		
			Seepage	0.10		
HyA:						
Hyde------------------	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.57	Depth to saturated zone	1.00	Slow refill	0.30
			Piping	0.99	Cutbanks cave	0.10
			Seepage	0.04		
MuA:						
Munden----------------	Very limited		Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	0.99	Cutbanks cave	1.00
			Seepage	0.36	Depth to saturated zone	0.01
NmA:						
Nimmo-----------------	Very limited		Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
			Seepage	0.64		
NxA:						
Nixonton--------------	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Piping	0.99	Depth to saturated zone	0.81
			Seepage	0.04	Cutbanks cave	0.10
Yeopim----------------	Very limited		Very limited		Very limited	
	Seepage	1.00	Piping	1.00	Cutbanks cave	1.00
			Depth to saturated zone	0.99	Depth to saturated zone	0.01
			Seepage	0.07		
PaA:						
Pasquotank------------	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
			Piping	1.00	Cutbanks cave	0.10
PeA:						
Perquimans------------	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.05	Depth to saturated zone	1.00	Slow refill	0.30
			Piping	0.89	Cutbanks cave	0.10
PgA:						
Pettigrew-------------	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	0.10
PoA:						
Portsmouth------------	Very limited		Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
			Seepage	0.07		

Table 15.—Water Management—Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
PrA:						
Portsmouth----------	Very limited		Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
			Seepage	0.10		
PuA:						
Pungo---------------	Very limited		Not rated		Somewhat limited	
	Seepage	1.00			Cutbanks cave	0.10
RoA:						
Roper---------------	Very limited		Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
			Seepage	0.11		
SeA:						
Seabrook------------	Very limited		Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	0.99	Cutbanks cave	1.00
			Seepage	0.64	Depth to saturated zone	0.01
TeA:						
Tetotum-------------	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Depth to saturated zone	0.99	Cutbanks cave	0.10
			Piping	0.99	Depth to saturated zone	0.01
			Seepage	0.01		
TmA:						
Tetotum-------------	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Depth to saturated zone	0.99	Cutbanks cave	0.10
			Piping	0.99	Depth to saturated zone	0.01
			Seepage	0.01		
Urban land----------	Not limited		Not rated		Not rated	
ToA:						
Tomotley------------	Very limited		Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
			Seepage	0.10		
TuA:						
Tomotley------------	Very limited		Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
			Seepage	0.10		
Portsmouth----------	Very limited		Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
			Seepage	0.07		
Urban land----------	Not limited		Not rated		Not rated	

Table 15.—Water Management—Continued

Map symbol and soil name	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
UdA:						
Udorthents, loamy---	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.43	Piping	0.59	Depth to water	1.00
Ur:						
Urban land----------	Not limited		Not rated		Not rated	
W:						
Water---------------	Not rated		Not rated		Not rated	
WaA:						
Wahee---------------	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	0.10
			Piping	1.00		
WcA:						
Wasda---------------	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
			Piping	1.00	Cutbanks cave	0.10
Conaby--------------	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	0.10
			Seepage	0.03		
WeA:						
Weeksville----------	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
			Piping	1.00	Cutbanks cave	0.10
YeA:						
Yeopim--------------	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Depth to saturated zone	0.99	Cutbanks cave	0.10
			Piping	0.92	Depth to saturated zone	0.01
			Seepage	0.04		

Table 16.—Engineering Properties

(Absence of an entry indicates that the data were not estimated.)

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	Percentage passing sieve number--: 10	Percentage passing sieve number--: 40	Percentage passing sieve number--: 200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
ApA:												
Arapahoe--------	0-17	Fine sandy loam, loamy fine sand, sandy loam	SC-SM, SC, SM	A-2-4, A-4	0	0	80-100	75-100	55-85	30-55	7-25	NP-8
	17-30	Fine sandy loam, loam, sandy loam	SM	A-2-4, A-4	0	0	100	100	70-100	20-49	15-30	NP
	30-42	Fine sandy loam, loam, sandy loam	SM	A-2-4, A-4	0	0	100	100	70-100	20-49	15-30	NP
	42-80	Sand, loamy fine sand, sandy loam	SP-SM, SM	A-2-4, A-3, A-4	0	0	100	100	65-100	5-45	10-20	NP-2
BaA:												
Barclay---------	0-7	Silt loam, loam, very fine sandy loam	ML	A-4	0	0	100	98-100	70-98	60-95	15-30	NP-7
	7-18	Very fine sandy loam, silt loam, loam	ML	A-4	0	0	100	98-100	70-98	60-95	15-30	NP-7
	18-49	Very fine sandy loam, silt loam, loam	ML	A-4	0	0	100	98-100	70-98	60-95	15-30	NP-7
	49-57	Fine sandy loam, sandy loam	ML	A-4	0	0	100	98-100	70-98	60-95	15-30	NP-7
	57-80	Loamy sand, fine sand, sand	SP-SM, SM	A-2-4	0	0	100	98-100	50-80	11-30	10-18	NP-3
BcA:												
Belhaven--------	0-9	Muck	PT	A-8	0	0	---	---	---	---	---	---
	9-20	Muck	PT	A-8	0	0	---	---	---	---	---	---
	20-24	Mucky loam, mucky sandy loam, fine sandy loam, sandy loam	SM, SC-SM, SC	A-2-4, A-4	0	0	100	100	60-85	30-49	20-30	NP-10
	24-65	Sandy clay loam, clay loam, loam	CL, CL-ML, SC, SC-SM, ML	A-4, A-7-6	0	0	100	100	80-100	36-95	20-45	4-15
	65-80	Sandy loam, loamy sand, loam, sandy clay loam	SM, SP-SM, SC-SM	A-2-4, A-1-b	0	0	100	100	50-80	5-35	10-15	NP
BeA:												
Bertie----------	0-5	Fine sandy loam, sandy loam, loam	SC-SM, SM, ML	A-2-4, A-4	0	0	90-100	75-100	50-98	30-60	0-25	NP-7
	5-23	Loam, clay loam, sandy clay loam	CL, SC-SM, CL-ML	A-4, A-7-6, A-6	0	0	90-100	75-100	75-100	51-80	20-45	5-25
	23-31	Sandy loam, sandy clay loam, clay loam	CL, CL-ML, SC-SM	A-4, A-7-6, A-6	0	0	90-100	75-100	75-100	51-80	20-45	5-25
	31-80	Loamy sand, sand	CL-ML, SC-SM, SM	A-1-b, A-4, A-2-4	0	0	80-100	70-100	35-90	10-55	10-22	NP-6

Table 16.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	Percentage passing sieve number--: 10	Percentage passing sieve number--: 40	Percentage passing sieve number--: 200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
BgA:												
Bertie----------	0-5	Fine sandy loam, sandy loam, loam	SC-SM, ML, SM	A-2-4, A-4	0	0	90-100	75-100	50-98	30-60	0-25	NP-7
	5-23	Loam, clay loam, sandy clay loam	CL, CL-ML, SC-SM	A-4, A-7-6, A-6	0	0	90-100	75-100	75-100	51-80	20-45	5-25
	23-31	Sandy loam, sandy clay loam, clay loam	SC-SM, CL-ML, CL	A-4, A-7-6, A-6	0	0	90-100	75-100	75-100	51-80	20-45	5-25
	31-80	Loamy sand, sand	SM, SC-SM, CL-ML	A-1-b, A-4, A-2-4	0	0	80-100	70-100	35-90	10-55	10-22	NP-6
Urban land------	---	---	---	---	---	---	---	---	---	---	---	---
BoA:												
Bojac-----------	0-8	Loamy fine sand, loamy sand	SC-SM, SM	A-2-4, A-4	0	0	94-100	89-100	82-97	30-38	0-22	NP-4
	8-47	Fine sandy loam, loam, sandy loam	SC-SM, SC	A-2-4, A-4	0	0	95-100	89-100	81-95	33-42	21-28	6-10
	47-85	Loamy fine sand, coarse sand, stratified coarse sand to loamy fine sand	SM, SC-SM	A-2-4, A-4	0	0	95-100	89-100	81-98	28-39	0-21	NP-4
CaA:												
Cape Lookout----	0-7	Silt loam, loam	ML, SC-SM, CL	A-4	0	0	100	98-100	75-100	63-89	20-40	3-15
	7-12	Silt loam, loam, silty clay loam, clay loam	SC-SM, ML, CL	A-4	0	0	100	98-100	75-100	63-89	20-40	3-15
	12-16	Clay loam, silty clay, clay, sandy clay	CH, CL	A-7-6	0	0	100	96-100	87-100	73-100	41-65	15-35
	16-42	Clay, clay loam, sandy clay	CL, CH	A-7-6	0	0	100	96-100	73-100	63-91	41-65	15-35
	42-50	Sandy clay loam, sandy loam, clay loam, loam	ML, CH	A-7-6	0	0	100	96-100	78-100	47-71	41-65	15-35
	50-80	Sandy loam, silt loam, fine sandy loam, loam, loamy sand	SC, CL, ML, SC-SM	A-7-6, A-4, A-6	0	0	100	96-100	63-93	36-65	7-55	NP-25

Table 16.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
CfA:												
Cape Lookout----	0-8	Mucky silt loam, mucky loam	CL-ML, CL, ML	A-4, A-6	0	0	100	95-100	85-100	60-90	20-40	3-15
	8-37	Clay, clay loam, silty clay, sandy clay	CL, CH	A-7-6	0	0	100	96-100	82-100	66-94	41-65	15-35
	37-45	Silty clay, clay, clay loam, sandy clay	CH, CL	A-7-6	0	0	100	96-100	77-100	75-100	41-65	15-35
	45-50	Silty clay loam, clay loam, loam, sandy clay loam, sandy loam	ML, CH	A-7-6	0	0	100	96-100	78-100	47-71	41-65	15-35
	50-80	Silt loam, loam, fine sandy loam, sandy loam, loamy sand	SC, CL, ML, SC-SM	A-7-6, A-4, A-6	0	0	100	96-100	63-93	36-65	7-55	NP-25
ChA:												
Chapanoke-------	0-6	Silt loam, loam	ML	A-4	0	0	100	100	85-100	60-90	15-30	NP-7
	6-12	Loam, silty clay loam, clay loam	CL, CL-ML	A-4, A-6, A-7-6	0	0	100	100	85-100	60-95	22-49	6-30
	12-50	Silt loam, silty clay loam, loam, clay loam	CL, CL-ML	A-4, A-6, A-7-6	0	0	100	100	85-100	60-95	22-49	6-30
	50-62	Loamy fine sand, fine sandy loam, loam	SC-SM, CL-ML, SM, ML	A-2-4, A-4	0	0	100	100	50-85	15-55	10-31	NP-10
	62-80	Fine sand, stratified sand to loam	CL-ML, ML, SC-SM, SM	A-2-4, A-4	0	0	98-100	98-100	50-95	18-80	7-20	NP-4
CsA:												
Chesapeake------	0-7	Sandy loam, fine sandy loam	CL-ML, SC, SC-SM, SM	A-2-4, A-4	0	0	100	95-100	60-85	30-60	0-20	NP-8
	7-28	Sandy clay loam, clay loam, loam	CL, SC	A-4, A-6	0	0	95-100	95-100	75-100	35-80	24-40	8-22
	28-52	Sandy loam, fine sandy loam, loam, sandy clay loam	SM, SC, SC-SM, CL	A-2-4, A-4, A-6	0	0	100	90-100	60-95	30-75	0-30	NP-15
	52-58	Loamy sand, loamy fine sand	SC-SM, SM	A-2-4	0	0	95-100	95-100	50-100	15-30	10-22	NP-6
	58-80	Sand, loamy sand, fine sand, stratified sand to fine sandy loam	SP-SM, SM, SC-SM	A-1-b, A-2-4, A-3, A-4	0	0	85-100	60-100	40-90	5-50	7-14	NP

Table 16.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
CwA:												
Chowan----------	0-6	Silt loam, loam, silty clay loam	SC-SM, CL, CL-ML, ML	A-4	0	0	100	100	70-100	55-90	15-30	1-10
	6-27	Silty clay loam, silt loam, loam	ML, SC-SM, SM, CL, CL-ML	A-4, A-6, A-7-6	0	0	80-100	75-100	65-100	45-95	15-45	1-18
	27-80	Muck	PT	A-8	0	0	---	---	---	---	---	---
DeA:												
Deloss----------	0-15	Mucky fine sandy loam, mucky sandy loam, mucky loam	ML, SC-SM, SM	A-2-4, A-4	0	0	100	100	70-95	30-65	15-35	NP-7
	15-45	Sandy clay loam, clay loam, fine sandy loam	CL, CL-ML, SC, SC-SM	A-4, A-6, A-7-6	0	0	100	100	75-98	36-70	25-45	4-22
	45-80	Fine sandy loam, loam, sandy loam	SC, SM, SW-SM, CL	A-6, A-7-6, A-2-4, A-4	0	0	80-100	75-100	40-100	3-80	7-45	NP-18
DoA:												
Dorovan---------	0-5	Muck	PT	A-8	0	0	---	---	---	---	---	---
	5-80	Muck, mucky peat	PT	A-8	0	0	---	---	---	---	---	---
DrA:												
Dragston--------	0-6	Fine sandy loam, sandy loam, loam	SM, SC-SM	A-4	0	0	100	94-100	82-96	39-49	17-28	1-7
	6-10	Fine sandy loam	SM, SC-SM	A-4	0	0	100	94-100	82-96	39-49	17-28	1-7
	10-42	Sandy loam, fine sandy loam, loam	SC-SM, SC	A-2-4, A-4, A-6	0	0	100	94-100	69-81	34-44	20-30	6-12
	42-80	Loamy sand, fine sandy loam, sand	SC-SM, SM	A-2-4	0	0	95-100	81-100	61-85	15-29	0-25	NP-7
DuA:												
Dragston--------	0-6	Fine sandy loam, sandy loam, loam	SM, SC-SM	A-4	0	0	100	94-100	82-96	39-49	17-28	1-7
	6-10	Fine sandy loam	SM, SC-SM	A-4	0	0	100	94-100	82-96	39-49	17-28	1-7
	10-42	Sandy loam, fine sandy loam, loam	SC-SM, SC	A-2-4, A-4, A-6	0	0	100	94-100	69-81	34-44	20-30	6-12
	42-80	Loamy sand, fine sandy loam, sand	SC-SM, SM	A-2-4	0	0	95-100	81-100	61-85	15-29	0-25	NP-7
Urban land------	---	---	---	---	---	---	---	---	---	---	---	---

Table 16.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
GeA:												
Gertie----------	0-8	Fine sandy loam, sandy loam	SC, SC-SM	A-4, A-6	0	0	100	94-100	64-85	29-47	20-35	5-16
	8-13	Clay loam, silty clay loam	CL	A-6, A-7-6	0	0	100	94-100	79-98	60-79	35-45	14-20
	13-58	Clay, sandy clay, silty clay, clay loam	CH, CL	A-7-6	0	0	100	95-100	75-100	64-92	45-70	22-40
	58-80	Fine sandy loam, loamy sand, sandy clay, silty clay, clay loam, stratified sand to clay	CL, SM, CL-ML, SC	A-2-4, A-4, A-6	0	0	100	79-100	64-100	23-74	10-60	NP-40
GrA:												
Gertie----------	0-4	Silt loam, loam	CL, CL-ML, SC-SM	A-4, A-6	0	0	100	94-100	81-100	66-87	20-35	5-16
	4-9	Silt loam, loam	CL	A-6	0	0	100	94-100	81-100	66-87	20-35	5-16
	9-41	Silty clay, silty clay loam, clay loam, clay	CL, CH	A-7-6	0	0	100	95-100	70-100	66-100	45-70	22-40
	41-80	Loamy sand, fine sandy loam, clay loam, clay, stratified sand to clay	SM, ML, CL-ML	A-2-4, A-4, A-6	0	0	100	79-100	58-100	14-66	10-52	NP-22
GtA:												
Gertie----------	0-4	Silt loam, loam	SC-SM, CL-ML, CL	A-4, A-6	0	0	100	94-100	81-100	66-87	20-35	5-16
	4-9	Silt loam, loam	CL	A-6	0	0	100	94-100	81-100	66-87	20-35	5-16
	9-41	Silty clay, silty clay loam, clay loam, clay	CH, CL	A-7-6	0	0	100	95-100	70-100	66-100	45-70	22-40
	41-80	Loamy sand, fine sandy loam, clay loam, clay, stratified sand to clay	ML, SM, CL-ML	A-2-4, A-4, A-6	0	0	100	79-100	58-100	14-66	10-52	NP-22
HyA:												
Hyde------------	0-7	Mucky silt loam, mucky loam, mucky very fine sandy loam	CL-ML, ML	A-4	0	0	100	95-100	85-100	60-99	15-35	NP-7
	7-13	Silt loam, loam, very fine sandy loam	ML, CL-ML	A-4	0	0	100	98-100	95-100	60-90	0-35	NP-7
	13-47	Silty clay loam, silt loam, loam	CL	A-4, A-5, A-6	0	0	100	98-100	90-100	75-95	22-42	7-20
	47-51	Clay loam, silty clay loam, silt loam, loam, sandy loam	CL	A-4, A-5, A-6	0	0	100	98-100	90-100	75-95	22-42	7-20
	51-80	Sandy loam, loam, silt loam	ML, CL-ML, CL	A-5, A-6, A-4	0	0	100	90-100	85-100	36-90	15-45	NP-20

Table 16.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	Percentage passing sieve number--: 10	Percentage passing sieve number--: 40	Percentage passing sieve number--: 200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
MuA:												
Munden----------	0-8	Loam, fine sandy loam, sandy loam	SM, SC-SM	A-4	0	0	100	94-100	82-96	39-49	17-28	1-7
	8-15	Sandy loam, loam, fine sandy loam	SC, SC-SM	A-2-4, A-4, A-6	0	0	100	88-100	63-82	30-44	20-31	4-12
	15-25	Sandy loam, loam, fine sandy loam	SC-SM, CL	A-4, A-6	0	0	100	88-100	73-92	50-67	20-31	4-12
	25-32	Sandy loam, loam, fine sandy loam	SC-SM, SC	A-2-4, A-4, A-6	0	0	100	88-100	63-82	30-44	20-31	4-12
	32-80	Fine sandy loam, loamy sand, sand	SP-SM, SC-SM	A-2-4	0	0	100	89-100	67-85	8-18	0-25	NP-7
NmA:												
Nimmo-----------	0-6	Sandy loam, fine sandy loam	SM, SC-SM	A-4	0	0	100	94-100	82-96	39-49	17-28	1-7
	6-25	Fine sandy loam, loam, sandy loam	SC-SM, SC	A-4, A-2-4, A-6	0	0	100	94-100	81-96	32-44	18-30	4-12
	25-80	Sand, sandy loam, fine sand, loamy sand	SC-SM, SP-SM	A-3, A-2-4	0	0	91-100	83-100	61-80	5-13	0-21	NP-4
NxA:												
Nixonton--------	0-6	Silt loam, loam, very fine sandy loam	CL-ML, ML	A-4	0	0	100	98-100	90-98	80-95	20-30	NP-7
	6-9	Very fine sandy loam, loam, silt loam	ML, CL-ML	A-4	0	0	100	98-100	90-98	80-95	20-30	NP-7
	9-24	Clay loam, silty clay loam, loam	CL	A-4, A-6, A-7-6	0	0	100	100	90-100	70-90	22-49	8-30
	24-35	Loam, clay loam, silty clay loam	CL	A-4, A-6, A-7-6	0	0	100	100	90-100	70-90	22-49	8-30
	35-45	Loam, clay loam, silty clay loam	CL	A-4, A-6, A-7-6	0	0	100	100	90-100	70-90	22-49	8-30
	45-50	Loam, sandy loam, silt loam	ML, CL-ML, CL	A-4	0	0	100	100	85-100	55-95	15-30	NP-10
	50-80	Sandy loam, loamy sand, sand	SM, SC-SM, SP-SM	A-2-4, A-3	0	0	100	90-100	50-90	5-35	0-18	NP-7
Yeopim----------	0-8	Loam, silt loam, very fine sandy loam	ML, CL-ML	A-4	0	0	100	100	85-100	55-80	15-30	NP-7
	8-42	Clay loam, loam, silty clay loam	CL	A-4, A-6, A-7-6	0	0	100	100	90-100	70-90	22-49	8-30
	42-55	Loamy sand, sandy loam, sand	SP-SM, SC-SM, SM, ML	A-2-4, A-3, A-4	0	0	98-100	98-100	50-95	5-80	10-22	NP-6
	55-80	Loamy sand, sandy loam, sand	SM, ML, SP-SM, SC-SM	A-2-4, A-3, A-4	0	0	98-100	98-100	50-95	5-80	10-22	NP-6

Table 16.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
PaA:												
Pasquotank------	0-6	Silt loam, loam, very fine sandy loam	ML	A-4	0	0	100	100	90-100	65-95	20-30	NP-7
	6-39	Loam, silt loam, very fine sandy loam	ML	A-4	0	0	100	100	90-98	65-95	20-30	NP-7
	39-44	Loam, very fine sandy loam, silt loam	ML	A-4	0	0	100	100	90-98	65-95	20-30	NP-7
	44-53	Loam, silt loam, very fine sandy loam, fine sandy loam, loamy very fine sand, loamy sand, fine sand, sand	CL, ML, CL-ML	A-4	0	0	100	100	90-98	65-95	10-20	NP-10
	53-80	Silt loam, loam, very fine sandy loam, fine sandy loam, loamy very fine sand, loamy sand, fine sand, sand	CL, CL-ML, ML	A-4	0	0	100	100	90-98	65-95	10-20	NP-10
PeA:												
Perquimans------	0-5	Silt loam, loam, very fine sandy loam	CL-ML, ML, CL	A-4	0	0	100	100	85-100	55-95	20-30	NP-10
	5-8	Silt loam, loam, very fine sandy loam	CL, ML, CL-ML	A-4	0	0	100	100	85-100	55-95	15-30	NP-10
	8-50	Silty clay loam, clay loam, loam	CL	A-4, A-7-6, A-6	0	0	100	100	90-100	75-98	22-49	8-30
	50-80	Silt loam, loam, silty clay loam, clay loam	CL, CL-ML, ML	A-4	0	0	100	100	85-100	55-95	15-30	NP-10
PgA:												
Pettigrew-------	0-6	Muck	PT	A-8	0	0	---	---	---	---	---	---
	6-11	Muck	PT	A-8	0	0	---	---	---	---	---	---
	11-16	Mucky loam, loam, clay loam, silty clay loam, mucky clay loam	CL	A-6, A-7-6	0	0	100	100	85-100	65-90	25-49	11-25
	16-30	Clay loam, silty clay, clay	CL	A-6, A-7-6	0	0	100	100	85-100	65-90	25-49	11-25
	30-37	Clay, clay loam, silty clay	CH, CL	A-7-6	0	0	100	100	85-100	70-95	42-70	20-40
	37-80	Loam, loamy sand, sandy loam, loamy fine sand, fine sandy loam	SM, SC-SM, SC	A-2-4, A-4	0	0	80-100	75-100	40-85	10-55	7-25	NP-8

Table 16.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	Percentage passing sieve number--: 10	Percentage passing sieve number--: 40	Percentage passing sieve number--: 200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
PoA:												
Portsmouth------	0-12	Fine sandy loam, loam, sandy loam	ML, SC-SM, SM	A-2-4, A-4	0	0	98-100	98-100	65-95	30-65	15-30	NP-7
	12-19	Sandy loam, loam, fine sandy loam	ML, SC-SM, SM	A-4, A-2-4	0	0	98-100	98-100	65-95	30-65	15-30	NP-7
	19-35	Sandy clay loam, clay loam, loam	SC-SM, CL, SC	A-4, A-6	0	0	98-100	98-100	75-95	36-70	20-40	7-18
	35-38	Loamy sand, sandy loam	SM, SC-SM	A-2-4, A-1-b	0	0	98-100	98-100	50-70	13-35	0-18	NP-4
	38-80	Loamy sand, loamy fine sand, sand	SM, SC-SM, SP-SM	A-3, A-2-4, A-4	0	0	100	100	65-100	5-45	10-22	NP-6
PrA:												
Portsmouth------	0-10	Mucky fine sandy loam, mucky loam, mucky sandy loam	SM, SC-SM, ML	A-2-4, A-4	0	0	98-100	98-100	65-95	30-65	20-30	NP-5
	10-15	Fine sandy loam, sandy loam, loam	SM, ML, SC-SM	A-4, A-2-4	0	0	98-100	98-100	65-95	30-65	20-30	NP-5
	15-20	Fine sandy loam, sandy loam, loam	CL-ML, CL, SC	A-6, A-4	0	0	98-100	98-100	75-95	36-70	20-30	7-18
	20-34	Sandy clay loam, clay loam, loam	CL, CL-ML, SC	A-4, A-6	0	0	98-100	98-100	75-95	36-70	20-40	7-18
	34-40	Loamy sand, sandy loam	SC-SM, SM	A-2-4, A-1-b	0	0	98-100	98-100	50-70	13-35	0-18	NP-4
	40-80	Loamy sand, loamy fine sand, sand	SP, SM, SP-SM	A-2-4, A-3, A-1-b	0	0	98-100	98-100	45-65	3-25	10-22	NP-6
PuA:												
Pungo-----------	0-97	Woody muck	PT	A-8	0	0	---	---	---	---	---	---
	97-99	Loam, sandy loam, clay loam, clay, silty clay, sandy clay	ML, SC, CL, CH	A-6, A-7-6, A-4	0	0	100	95-100	67-100	47-100	15-65	NP-35
RoA:												
Roper-----------	0-8	Muck	PT	A-8	0	0	---	---	---	---	---	---
	8-11	Muck	PT	A-8	0	0	---	---	---	---	---	---
	11-17	Mucky loam, mucky silt loam, silt loam, clay loam, loam	CL	A-4, A-6	0	0	100	100	90-100	60-95	20-40	8-25
	17-41	Loam, silt loam, silty clay loam	CL	A-4, A-6	0	0	100	100	90-100	60-95	20-40	8-25
	41-80	Stratified sand to loamy sand to sandy loam to loam to silt loam to sandy clay loam to silty clay to clay	SC, SC-SM, SM, SW-SM	A-2-4, A-1-b, A-4	0	0	80-100	75-100	40-70	3-40	7-25	NP-8

Table 16.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
SeA:												
Seabrook--------	0-8	Fine sand, loamy sand, sand	SP-SM, SM	A-2-4, A-3	0	0	95-100	90-100	85-99	5-25	9-18	NP-2
	8-81	Sand, fine sand, loamy fine sand, loamy sand, coarse sand, loamy coarse sand	SM, SP-SM	A-2-4, A-3	0	0	95-100	90-100	85-100	5-25	7-14	NP
TeA:												
Tetotum---------	0-9	Fine sandy loam, sandy loam	ML, SM	A-2-4, A-4	0	0	100	95-100	82-96	35-47	0-30	NP-7
	9-38	Clay loam, sandy clay loam, silty clay loam	SC, CL	A-6, A-7-6	0	0	100	95-100	76-98	58-78	30-45	10-20
	38-48	Sandy clay loam, clay loam, silty clay loam	SC, CL	A-6, A-7-6	0	0	100	95-100	78-100	42-61	30-45	10-20
	48-80	Fine sandy loam, loamy fine sand, loam	SM, SC, ML, CL	A-2-4, A-4, A-6	0	0	100	95-100	82-96	35-47	0-30	NP-15
TmA:												
Tetotum---------	0-9	Fine sandy loam, sandy loam	ML, SM	A-2-4, A-4	0	0	100	95-100	82-96	35-47	0-30	NP-7
	9-38	Clay loam, sandy clay loam, silty clay loam	CL, SC	A-6, A-7-6	0	0	100	95-100	76-98	58-78	30-45	10-20
	38-48	Sandy clay loam, clay loam, silty clay loam	SC, CL	A-6, A-7-6	0	0	100	95-100	78-100	42-61	30-45	10-20
	48-80	Fine sandy loam, loamy fine sand, loam	SM, SC, CL, ML	A-2-4, A-4, A-6	0	0	100	95-100	82-96	35-47	0-30	NP-15
Urban land------	---	---	---	---	---	---	---	---	---	---	---	---
ToA:												
Tomotley--------	0-7	Fine sandy loam, sandy loam	SM, SC-SM	A-2-4, A-4	0	0	98-100	93-100	79-100	29-46	15-30	NP-7
	7-12	Fine sandy loam, sandy clay loam, clay loam	SC, SC-SM, CL-ML, CL	A-4, A-6	0	0	98-100	93-100	86-100	38-58	20-40	6-23
	12-42	Sandy clay loam, fine sandy loam, sandy clay	CL, CL-ML, SC-SM, SC	A-4, A-6, A-7-6	0	0	98-100	93-100	71-100	37-70	20-50	6-22
	42-50	Loamy sand, loamy fine sand, sandy loam, fine sandy loam	SM, SC-SM	A-1-b, A-2-4, A-4	0	0	77-100	76-100	46-81	18-44	10-22	NP-6
	50-80	Loamy sand, loamy fine sand, sandy loam, fine sandy loam	SM, SC-SM, SP-SM	A-2-4, A-4	0	0	77-100	76-100	54-91	12-36	10-22	NP-6

Table 16.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
TuA:												
Tomotley--------	0-7	Fine sandy loam, sandy loam	SM, SC-SM	A-2-4, A-4	0	0	98-100	93-100	79-100	29-46	15-30	NP-7
	7-12	Fine sandy loam, sandy clay loam, clay loam	SC-SM, SC, CL-ML, CL	A-4, A-6	0	0	98-100	93-100	86-100	38-58	20-40	6-23
	12-42	Sandy clay loam, fine sandy loam, sandy clay	SC-SM, SC, CL, CL-ML	A-4, A-6, A-7-6	0	0	98-100	93-100	71-100	37-70	20-50	6-22
	42-50	Loamy sand, loamy fine sand, sandy loam, fine sandy loam	SM, SC-SM	A-1-b, A-2-4, A-4	0	0	77-100	76-100	46-81	18-44	10-22	NP-6
	50-80	Loamy sand, loamy fine sand, sandy loam, fine sandy loam	SM, SC-SM, SP-SM	A-2-4, A-4	0	0	77-100	76-100	54-91	12-36	10-22	NP-6
Portsmouth------	0-12	Fine sandy loam, loam, sandy loam	SM, SC-SM, ML	A-2-4, A-4	0	0	98-100	98-100	65-95	30-65	15-30	NP-7
	12-19	Fine sandy loam, loam, sandy loam	SC-SM, ML, SM	A-4, A-2-4	0	0	98-100	98-100	65-95	30-65	15-30	NP-7
	19-34	Sandy clay loam, clay loam, loam	SC-SM, CL, SC	A-4, A-6	0	0	98-100	98-100	75-95	36-70	20-40	7-18
	34-38	Loamy sand, sandy loam	SM, SC-SM	A-2-4, A-1-b	0	0	98-100	98-100	50-70	13-35	0-18	NP-4
	38-80	Loamy sand, loamy fine sand, sand	SC-SM, SP-SM, SM	A-3, A-2-4, A-4	0	0	100	100	65-100	5-45	10-22	NP-6
Urban land------	---	---	---	---	---	---	---	---	---	---	---	---
UdA:												
Udorthents, loamy----------	0-80	Loam, silt loam, sandy clay loam, fine sandy loam, sandy loam	SC-SM, CL, CL-ML, SC	A-2-4, A-6, A-4, A-7-6	0	0-1	95-100	90-100	70-98	30-90	20-45	4-25
Ur:												
Urban land------	---	---	---	---	---	---	---	---	---	---	---	---

Table 16.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	Percentage passing sieve number--: 10	Percentage passing sieve number--: 40	Percentage passing sieve number--: 200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
WaA:												
Wahee-----------	0-7	Silt loam, loam, fine sandy loam	CL-ML, ML, CL	A-4	0	0	100	100	79-100	63-85	12-31	NP-10
	7-12	Silty clay loam, clay loam, silty clay	CH, CL	A-6, A-7-5	0	0	100	100	93-100	82-100	20-61	10-27
	12-23	Silty clay, clay loam, sandy clay	CH, CL	A-6, A-7-5	0	0	100	100	86-100	83-100	20-61	10-27
	23-34	Silty clay loam, silty clay, clay loam	CL, CH	A-6, A-7-5	0	0	100	100	93-100	82-100	20-61	10-27
	34-41	Loam, clay loam, silty clay loam, silty clay	CL, CH	A-6, A-7-5	0	0	100	100	88-100	69-100	20-61	10-27
	41-80	Sandy loam, fine sandy loam, sandy clay loam, loam, clay, clay loam	SM, CL, SC, SC-SM, ML	A-6, A-7-6, A-4	0	0	83-100	82-100	60-100	37-85	12-48	NP-20
WcA:												
Wasda-----------	0-10	Muck	PT	A-1-a	0	0	---	---	---	---	---	---
	10-15	Mucky sandy loam, sandy loam, loam, fine sandy loam, sandy clay loam	SM, ML	A-4	0	0	98-100	95-100	75-99	45-70	20-35	NP-3
	15-36	Sandy clay loam, sandy loam, clay loam	CL, CL-ML	A-4, A-6	0	0	98-100	95-100	75-99	50-80	20-40	6-18
	36-80	Clay loam, sandy loam, loam	SM, SC-SM, ML, CL-ML	A-4	0	0	98-100	95-100	75-95	45-70	15-25	NP-7
Conaby----------	0-12	Muck	PT	A-1-a	0	0	---	---	---	---	---	---
	12-20	Mucky sandy loam, sandy loam, loamy sand, loamy fine sand	SP-SM, SM	A-2-4, A-3	0	0	100	96-100	65-85	5-25	7-14	NP
	20-55	Sandy loam, fine sandy loam, loam	SC-SM, SM	A-2-4, A-4	0	0	100	96-100	70-85	20-45	20-30	NP-7
	55-80	Sandy loam, sand	SP-SM, SC-SM, SM	A-2-4, A-3, A-4	0	0	100	96-100	65-85	5-45	7-14	NP

Table 16.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	Percentage passing sieve number--: 10	Percentage passing sieve number--: 40	Percentage passing sieve number--: 200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
WeA:												
Weeksville------	0-6	Loam, silt loam, very fine sandy loam	ML	A-4	0	0	100	100	85-100	60-95	20-30	NP-7
	6-13	Silt loam, loam, very fine sandy loam	ML	A-4	0	0	100	100	85-100	60-95	20-30	NP-7
	13-45	Loam, silt loam, very fine sandy loam	ML	A-4	0	0	100	100	85-100	60-95	15-30	NP-7
	45-60	Loam, silt loam, very fine sandy loam	ML	A-4	0	0	100	100	85-100	60-95	15-30	NP-7
	60-80	Fine sandy loam, loam, silt loam, very fine sandy loam, loamy sand, loamy fine sand, sand	SM	A-2-4, A-4	0	0	100	100	60-90	20-50	15-25	NP-3
YeA:												
Yeopim----------	0-5	Silt loam, loam, very fine sandy loam	CL-ML, ML	A-4	0	0	100	100	85-100	55-80	15-30	NP-7
	5-31	Silty clay loam, clay loam, loam	CL	A-4, A-6, A-7-6	0	0	100	100	90-100	70-90	22-49	8-30
	31-49	Silty clay loam, clay loam, loam	CL	A-4, A-6, A-7-6	0	0	100	100	90-100	70-90	22-49	8-30
	49-80	Sandy loam, loamy sand, sand	SM, SP-SM, ML, SC-SM	A-1-b, A-4	0	0	98-100	98-100	50-95	5-80	10-20	NP-7

Table 17.—Physical Soil Properties

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer. Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
ApA:														
Arapahoe	0-17	---	---	5-20	1.40-1.50	14.00-42.00	0.12-0.16	0.0-2.9	1.0-8.0	.20	.20	5	3	86
	17-30	---	---	8-18	1.45-1.60	14.00-42.00	0.10-0.14	0.0-2.9	0.5-3.0	.24	.24			
	30-42	---	---	8-18	1.45-1.60	14.00-42.00	0.10-0.14	0.0-2.9	0.5-3.0	.24	.24			
	42-80	---	---	3-18	1.40-1.65	14.00-141.00	0.05-0.14	0.0-2.9	0.5-1.0	.17	.17			
BaA:														
Barclay	0-7	---	---	5-18	1.30-1.50	4.00-14.00	0.18-0.25	0.0-2.9	2.0-4.0	.43	.43	5	5	56
	7-18	---	---	5-18	1.30-1.50	4.00-14.00	0.15-0.20	0.0-2.9	0.0-0.5	.55	.55			
	18-49	---	---	5-18	1.30-1.50	4.00-14.00	0.15-0.20	0.0-2.9	0.0-0.5	.55	.55			
	49-57	---	---	5-18	1.30-1.50	4.00-14.00	0.15-0.20	0.0-2.9	0.0-0.5	.32	.32			
	57-80	---	---	3-12	1.50-1.70	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.17	.17			
BcA:														
Belhaven	0-9	---	---	7-27	0.40-0.65	1.40-42.00	0.20-0.26	---	20-100	---	---	2	2	134
	9-20	---	---	7-27	0.40-0.65	1.40-42.00	0.20-0.26	---	20-100	---	---			
	20-24	---	---	5-15	1.45-1.65	14.00-42.00	0.10-0.24	0.0-2.9	6.0-15	.15	.15			
	24-65	---	---	10-35	1.30-1.45	1.40-4.00	0.12-0.20	0.0-2.9	1.0-3.0	.24	.24			
	65-80	---	---	2-35	1.60-1.70	42.00-141.00	0.04-0.09	0.0-2.9	0.0-1.0	.24	.24			
BeA:														
Bertie	0-5	---	---	5-20	1.40-1.70	14.00-42.00	0.10-0.15	0.0-2.9	0.5-2.0	.28	.28	5	3	86
	5-23	---	---	20-35	1.35-1.60	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.32	.32			
	23-31	---	---	10-35	1.35-1.60	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.20	.20			
	31-80	---	---	0-14	1.35-1.60	42.00-141.00	0.08-0.17	0.0-2.9	0.0-0.5	.15	.15			
BgA:														
Bertie	0-5	---	---	5-20	1.40-1.70	14.00-42.00	0.10-0.15	0.0-2.9	0.5-2.0	.28	.28	5	3	86
	5-23	---	---	20-35	1.35-1.60	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.32	.32			
	23-31	---	---	10-35	1.35-1.60	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.20	.20			
	31-80	---	---	0-14	1.35-1.60	42.00-141.00	0.08-0.17	0.0-2.9	0.0-0.5	.15	.15			
Urban land	---	---	---	---	---	---	---	---	---	---	---	--	---	---
BoA:														
Bojac	0-8	---	---	3-8	1.20-1.50	14.00-141.00	0.05-0.10	0.0-2.9	0.5-1.0	.32	.32	5	2	134
	8-47	---	---	11-16	1.35-1.55	14.00-42.00	0.08-0.16	0.0-2.9	0.0-0.5	.24	.24			
	47-85	---	---	1-8	1.30-1.50	42.00-141.00	0.02-0.07	0.0-2.9	0.0-0.5	.32	.32			

Table 17.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
CaA:														
Cape Lookout---------	0-7	---	---	5-30	1.30-1.50	4.00-42.00	0.14-0.19	0.0-2.9	1.0-8.0	.32	.32	5	5	56
	7-12	---	---	5-30	1.30-1.50	4.00-42.00	0.14-0.19	0.0-2.9	1.0-8.0	.32	.32			
	12-16	---	---	35-60	1.25-1.40	0.42-1.40	0.08-0.20	3.0-5.9	0.5-3.0	.28	.28			
	16-42	---	---	35-60	1.25-1.40	0.42-1.40	0.11-0.13	3.0-5.9	0.0-0.5	.20	.20			
	42-50	---	---	18-40	1.25-1.40	4.00-42.00	0.11-0.13	0.0-2.9	0.0-0.5	.24	.24			
	50-80	---	---	2-30	1.35-1.60	14.00-141.00	0.05-0.19	0.0-2.9	0.0-0.5	.28	.28			
CfA:														
Cape Lookout---------	0-8	---	---	5-15	1.30-1.50	4.00-42.00	0.15-0.22	0.0-2.9	10-20	.15	.15	5	6	48
	8-37	---	---	35-60	1.25-1.40	0.42-1.40	0.08-0.20	3.0-5.9	0.5-3.0	.24	.24			
	37-45	---	---	35-60	1.25-1.40	0.42-1.40	0.11-0.13	3.0-5.9	0.0-0.5	.24	.24			
	45-50	---	---	18-40	1.25-1.40	4.00-42.00	0.11-0.13	0.0-2.9	0.0-0.5	.43	.43			
	50-80	---	---	2-30	1.35-1.60	14.00-141.00	0.05-0.19	0.0-2.9	0.0-0.5	.49	.49			
ChA:														
Chapanoke------------	0-6	---	---	7-27	1.30-1.50	4.00-14.00	0.15-0.24	0.0-2.9	0.5-2.0	.49	.49	5	5	56
	6-12	---	---	18-35	1.30-1.50	1.40-4.00	0.15-0.22	0.0-2.9	0.0-0.5	.49	.49			
	12-50	---	---	18-35	1.30-1.50	1.40-4.00	0.15-0.22	0.0-2.9	0.0-0.5	.49	.49			
	50-62	---	---	2-27	1.30-1.50	1.40-4.00	0.15-0.24	0.0-2.9	0.0-0.5	.37	.37			
	62-80	---	---	2-15	1.45-1.65	1.40-14.00	0.07-0.15	0.0-2.9	0.0-0.5	.17	.17			
CsA:														
Chesapeake-----------	0-7	---	---	5-15	1.20-1.50	14.00-42.00	0.08-0.15	0.0-2.9	1.0-2.0	.28	.28	5	3	86
	7-28	---	---	18-34	1.35-1.50	4.00-14.00	0.14-0.19	0.0-2.9	0.0-0.5	.24	.24			
	28-52	---	---	8-34	1.20-1.35	4.00-42.00	0.08-0.18	0.0-2.9	0.5-1.0	.17	.17			
	52-58	---	---	5-15	1.20-1.50	14.00-42.00	0.05-0.10	0.0-2.9	0.5-1.0	.17	.17			
	58-80	---	---	2-12	1.35-1.50	14.00-141.00	0.02-0.10	0.0-2.9	0.0-0.5	.05	.05			
CwA:														
Chowan---------------	0-6	---	---	7-27	1.35-1.45	4.00-42.00	0.20-0.22	0.0-2.9	1.0-2.0	.49	.49	5	8	0
	6-27	---	---	7-35	1.35-1.45	4.00-42.00	0.17-0.22	0.0-2.9	0.0-0.5	.43	.43			
	27-80	---	---	7-27	0.40-0.65	1.40-42.00	0.20-0.26	0.0-2.9	20-80	---	---			
DeA:														
Deloss---------------	0-15	---	---	5-20	1.20-1.50	14.00-42.00	0.12-0.20	0.0-2.9	6.0-10	.10	.10	5	3	86
	15-45	---	---	18-35	1.30-1.60	4.00-14.00	0.12-0.18	0.0-2.9	0.5-2.0	.20	.20			
	45-80	---	---	0-26	1.30-1.60	4.00-141.00	0.05-0.16	0.0-2.9	0.0-0.5	.28	.28			
DoA:														
Dorovan--------------	0-5	---	---	7-27	0.25-0.40	4.00-14.00	0.20-0.66	---	20-100	---	---	3	8	0
	5-80	---	---	7-27	0.35-0.55	4.00-14.00	0.20-0.66	---	20-100	---	---			

Table 17.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
DrA:														
Dragston-------------	0-6	---	---	4-12	1.20-1.50	14.00-42.00	0.08-0.15	0.0-2.9	1.0-2.0	.28	.28	5	3	86
	6-10	---	---	4-12	1.20-1.50	14.00-42.00	0.08-0.15	0.0-2.9	0.2-1.0	.32	.32			
	10-42	---	---	10-18	1.25-1.45	14.00-42.00	0.08-0.16	0.0-2.9	0.0-0.5	.24	.24			
	42-80	---	---	2-12	1.35-1.55	42.00-141.00	0.04-0.10	0.0-2.9	0.0-0.5	.15	.15			
DuA:														
Dragston-------------	0-6	---	---	4-12	1.20-1.50	14.00-42.00	0.08-0.15	0.0-2.9	1.0-2.0	.28	.28	5	3	86
	6-10	---	---	4-12	1.20-1.50	14.00-42.00	0.08-0.15	0.0-2.9	0.2-1.0	.32	.32			
	10-42	---	---	10-18	1.25-1.45	14.00-42.00	0.08-0.16	0.0-2.9	0.0-0.5	.24	.24			
	42-80	---	---	2-12	1.35-1.55	42.00-141.00	0.04-0.10	0.0-2.9	0.0-0.5	.15	.15			
Urban land-----------	---	---	---	---	---	---	---	---	---	---	---	--	---	---
GeA:														
Gertie---------------	0-8	---	---	10-27	1.20-1.50	14.00-42.00	0.14-0.20	0.0-2.9	0.5-2.0	.20	.20	5	6	48
	8-13	---	---	20-35	1.20-1.50	0.42-1.40	0.16-0.19	3.0-5.9	0.0-0.5	.37	.37			
	13-58	---	---	35-60	1.35-1.65	0.42-1.40	0.10-0.19	3.0-5.9	0.0-0.5	.24	.24			
	58-80	---	---	5-50	1.20-1.50	0.01-141.00	0.04-0.14	3.0-5.9	0.0-0.5	.20	.20			
GrA:														
Gertie---------------	0-4	---	---	10-27	1.20-1.50	4.00-14.00	0.14-0.20	0.0-2.9	0.5-2.0	.49	.49	5	5	56
	4-9	---	---	10-27	1.20-1.50	4.00-14.00	0.16-0.19	0.0-2.9	0.0-0.5	.55	.55			
	9-41	---	---	20-60	1.35-1.65	0.42-1.40	0.10-0.19	3.0-5.9	0.0-0.5	.32	.32			
	41-80	---	---	2-50	1.20-1.50	0.01-141.00	0.04-0.14	3.0-5.9	0.0-0.5	.15	.15			
GtA:														
Gertie---------------	0-4	---	---	10-27	1.20-1.50	4.00-14.00	0.14-0.20	0.0-2.9	0.5-2.0	.49	.49	5	6	48
	4-9	---	---	10-27	1.20-1.50	4.00-14.00	0.16-0.19	0.0-2.9	0.0-0.5	.55	.55			
	9-41	---	---	20-60	1.35-1.65	0.42-1.40	0.10-0.19	3.0-5.9	0.0-0.5	.32	.32			
	41-80	---	---	2-50	1.20-1.50	0.01-141.00	0.04-0.14	3.0-5.9	0.0-0.5	.15	.15			
HyA:														
Hyde-----------------	0-7	---	---	5-18	1.30-1.50	4.00-14.00	0.12-0.20	0.0-2.9	3.0-10	.28	.28	5	5	56
	7-13	---	---	7-18	1.30-1.50	4.00-14.00	0.12-0.20	0.0-2.9	2.0-6.0	.43	.43			
	13-47	---	---	18-35	1.30-1.40	1.40-4.00	0.15-0.20	0.0-2.9	0.2-3.0	.43	.43			
	47-51	---	---	18-35	1.30-1.40	1.40-4.00	0.15-0.20	0.0-2.9	0.2-3.0	.37	.37			
	51-80	---	---	5-35	1.30-1.45	1.40-42.00	0.12-0.20	0.0-2.9	0.0-0.5	.20	.20			
MuA:														
Munden---------------	0-8	---	---	4-12	1.20-1.50	14.00-42.00	0.08-0.15	0.0-2.9	1.0-2.0	.24	.24	5	3	86
	8-15	---	---	8-18	1.20-1.35	4.00-42.00	0.08-0.18	0.0-2.9	0.5-1.0	.24	.24			
	15-25	---	---	8-18	1.20-1.35	4.00-42.00	0.08-0.18	0.0-2.9	0.5-1.0	.43	.43			
	25-32	---	---	8-18	1.20-1.35	4.00-42.00	0.08-0.18	0.0-2.9	0.5-1.0	.24	.24			
	32-80	---	---	2-12	1.35-1.55	14.00-141.00	0.04-0.08	0.0-2.9	0.0-0.5	.05	.05			

Table 17.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
NmA:														
Nimmo----------------	0-6	---	---	4-12	1.20-1.50	14.00-42.00	0.08-0.15	0.0-2.9	1.0-2.0	.24	.24	5	3	86
	6-25	---	---	8-18	1.20-1.35	4.00-42.00	0.08-0.18	0.0-2.9	0.0-0.5	.24	.24			
	25-80	---	---	1-8	1.35-1.55	14.00-141.00	0.04-0.08	0.0-2.9	0.0-0.5	.05	.05			
NxA:														
Nixonton-------------	0-6	---	---	5-18	1.30-1.50	4.00-14.00	0.15-0.20	0.0-2.9	0.5-2.0	.49	.49	5	5	56
	6-9	---	---	5-18	1.30-1.50	4.00-14.00	0.15-0.20	0.0-2.9	0.5-2.0	.55	.55			
	9-24	---	---	18-35	1.40-1.60	1.40-4.00	0.15-0.20	0.0-2.9	0.0-0.5	.43	.43			
	24-35	---	---	16-35	1.40-1.60	1.40-4.00	0.15-0.20	0.0-2.9	0.0-0.5	.49	.49			
	35-45	---	---	10-35	1.40-1.60	1.40-4.00	0.15-0.20	0.0-2.9	0.0-0.5	.49	.49			
	45-50	---	---	8-25	1.20-1.40	1.40-4.00	0.13-0.20	0.0-2.9	0.0-0.5	.55	.55			
	50-80	---	---	3-12	1.35-1.55	14.00-141.00	0.04-0.08	0.0-2.9	0.0-0.5	.28	.28			
Yeopim---------------	0-8	---	---	4-20	1.20-1.40	4.00-14.00	0.15-0.20	0.0-2.9	0.5-2.0	.55	.55	5	5	56
	8-42	---	---	20-35	1.40-1.60	1.40-4.00	0.15-0.20	0.0-2.9	0.0-0.5	.43	.43			
	42-55	---	---	2-25	1.40-1.60	14.00-141.00	0.15-0.20	0.0-2.9	0.0-0.5	.28	.28			
	55-80	---	---	2-25	1.40-1.60	14.00-141.00	0.15-0.20	0.0-2.9	0.0-0.5	.28	.28			
PaA:														
Pasquotank-----------	0-6	---	---	5-18	1.30-1.50	4.00-14.00	0.18-0.25	0.0-2.9	2.0-5.0	.37	.37	5	5	56
	6-39	---	---	5-18	1.30-1.50	4.00-14.00	0.15-0.20	0.0-2.9	0.0-1.0	.55	.55			
	39-44	---	---	5-18	1.30-1.50	4.00-14.00	0.15-0.20	0.0-2.9	0.0-1.0	.55	.55			
	44-53	---	---	5-18	1.30-1.50	4.00-14.00	0.15-0.20	0.0-2.9	0.0-1.0	.55	.55			
	53-80	---	---	5-18	1.30-1.50	4.00-14.00	0.15-0.20	0.0-2.9	0.0-1.0	.55	.55			
PeA:														
Perquimans-----------	0-5	---	---	8-25	1.20-1.40	4.00-14.00	0.13-0.20	0.0-2.9	2.0-4.0	.43	.43	5	5	56
	5-8	---	---	8-25	1.20-1.40	4.00-14.00	0.13-0.20	0.0-2.9	0.0-1.0	.55	.55			
	8-50	---	---	18-35	1.40-1.60	1.40-4.00	0.15-0.20	0.0-2.9	0.0-1.0	.49	.49			
	50-80	---	---	8-30	1.20-1.40	1.40-4.00	0.13-0.20	0.0-2.9	0.0-0.5	.55	.55			
PgA:														
Pettigrew------------	0-6	---	---	7-27	0.40-0.65	1.40-42.00	0.24-0.46	0.0-2.9	20-50	---	---	5	2	134
	6-11	---	---	7-27	0.40-0.65	1.40-42.00	0.24-0.46	0.0-2.9	20-100	---	---			
	11-16	---	---	10-30	1.30-1.40	0.42-1.40	0.15-0.22	3.0-5.9	4.0-20	.15	.15			
	16-30	---	---	10-60	1.30-1.40	0.42-1.40	0.15-0.22	3.0-5.9	4.0-20	.15	.15			
	30-37	---	---	35-60	1.20-1.35	0.01-0.42	0.12-0.18	6.0-8.9	0.5-2.0	.24	.24			
	37-80	---	---	0-20	1.40-1.55	4.00-141.00	0.08-0.16	0.0-2.9	0.0-0.5	.43	.43			

Table 17.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
PoA:														
Portsmouth-----------	0-12	---	---	5-25	1.30-1.40	14.00-42.00	0.12-0.18	0.0-2.9	3.0-8.0	.15	.15	4	3	86
	12-19	---	---	5-25	1.30-1.40	14.00-42.00	0.12-0.18	0.0-2.9	0.5-2.0	.24	.24			
	19-35	---	---	20-35	1.45-1.55	4.00-14.00	0.14-0.20	0.0-2.9	0.5-2.0	.20	.20			
	35-38	---	---	8-18	1.40-1.60	14.00-42.00	0.06-0.10	0.0-2.9	0.0-0.5	.24	.24			
	38-80	---	---	2-10	1.40-1.65	14.00-141.00	0.02-0.05	0.0-2.9	0.5-1.0	.24	.24			
PrA:														
Portsmouth-----------	0-10	---	---	10-25	1.30-1.40	14.00-42.00	0.12-0.18	0.0-2.9	7.0-25	.02	.02	5	3	86
	10-15	---	---	10-25	1.30-1.40	14.00-42.00	0.12-0.18	0.0-2.9	0.5-2.0	.20	.20			
	15-20	---	---	0-20	1.45-1.55	14.00-42.00	0.14-0.20	0.0-2.9	0.5-2.0	.20	.20			
	20-34	---	---	20-35	1.45-1.55	4.00-14.00	0.14-0.20	0.0-2.9	0.5-2.0	.20	.20			
	34-40	---	---	8-18	1.40-1.60	14.00-42.00	0.06-0.10	0.0-2.9	0.0-0.5	.24	.24			
	40-80	---	---	2-15	1.40-1.65	14.00-141.00	0.05-0.14	0.0-2.9	0.5-1.0	.15	.15			
PuA:														
Pungo----------------	0-97	---	---	7-27	0.35-0.60	4.00-42.00	0.20-0.26	0.0-2.9	40-100	---	---	3	2	134
	97-99	---	---	8-60	1.25-1.60	1.40-42.00	0.12-0.18	0.0-5.9	0.0-5.0	.24	.24			
RoA:														
Roper----------------	0-8	---	---	7-27	0.40-0.65	1.40-42.00	0.24-0.46	0.0-2.9	20-60	---	---	5	2	134
	8-11	---	---	7-27	0.40-0.65	1.40-42.00	0.24-0.46	0.0-2.9	20-100	---	---			
	11-17	---	---	18-35	1.30-1.40	1.40-4.00	0.16-0.24	0.0-2.9	3.0-15	.20	.20			
	17-41	---	---	18-35	1.30-1.40	1.40-4.00	0.16-0.24	0.0-2.9	0.0-2.0	.49	.49			
	41-80	---	---	0-45	1.40-1.60	4.00-141.00	0.05-0.13	0.0-2.9	0.0-0.5	.24	.24			
SeA:														
Seabrook-------------	0-8	---	---	2-12	1.30-1.60	42.00-141.00	0.05-0.11	0.0-2.9	0.5-2.0	.05	.05	5	1	220
	8-81	---	---	0-12	1.30-1.60	42.00-141.00	0.02-0.09	0.0-2.9	0.0-0.5	.05	.05			
TeA:														
Tetotum--------------	0-9	---	---	5-15	1.50-1.70	14.00-42.00	0.08-0.15	0.0-2.9	0.5-2.0	.20	.24	5	3	86
	9-38	---	---	18-35	1.40-1.65	4.00-14.00	0.14-0.19	0.0-2.9	0.0-0.5	.24	.32			
	38-48	---	---	18-35	1.40-1.65	4.00-14.00	0.14-0.19	0.0-2.9	0.0-0.5	.24	.24			
	48-80	---	---	5-15	1.50-1.80	4.00-141.00	0.05-0.15	0.0-2.9	0.0-0.5	.28	.28			
TmA:														
Tetotum--------------	0-9	---	---	5-15	1.50-1.70	14.00-42.00	0.08-0.15	0.0-2.9	0.5-2.0	.20	.24	5	3	86
	9-38	---	---	18-35	1.40-1.65	4.00-14.00	0.14-0.19	0.0-2.9	0.0-0.5	.24	.32			
	38-48	---	---	18-35	1.40-1.65	4.00-14.00	0.14-0.19	0.0-2.9	0.0-0.5	.24	.24			
	48-80	---	---	5-15	1.50-1.80	4.00-141.00	0.05-0.15	0.0-2.9	0.0-0.5	.28	.28			
Urban land-----------	---	---	---	---	---	---	---	---	---	---	---	--	---	---

Table 17.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
ToA:														
Tomotley-------------	0-7	---	---	5-20	1.30-1.60	14.00-42.00	0.10-0.15	0.0-2.9	1.0-6.0	.20	.20	5	3	86
	7-12	---	---	18-35	1.30-1.50	4.00-14.00	0.12-0.18	0.0-2.9	0.5-1.0	.24	.24			
	12-42	---	---	15-45	1.30-1.60	1.40-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.24	.24			
	42-50	---	---	0-20	1.40-1.55	4.00-141.00	0.08-0.16	0.0-2.9	0.0-0.5	.15	.15			
	50-80	---	---	0-20	1.40-1.55	4.00-141.00	0.08-0.16	0.0-2.9	0.0-0.5	.10	.10			
TuA:														
Tomotley-------------	0-7	---	---	5-20	1.30-1.60	14.00-42.00	0.10-0.15	0.0-2.9	1.0-6.0	.20	.20	5	3	86
	7-12	---	---	18-35	1.30-1.50	4.00-14.00	0.12-0.18	0.0-2.9	0.5-1.0	.24	.24			
	12-42	---	---	15-45	1.30-1.60	1.40-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.24	.24			
	42-50	---	---	0-20	1.40-1.55	4.00-141.00	0.08-0.16	0.0-2.9	0.0-0.5	.15	.15			
	50-80	---	---	0-20	1.40-1.55	4.00-141.00	0.08-0.16	0.0-2.9	0.0-0.5	.10	.10			
Portsmouth-----------	0-12	---	---	5-25	1.30-1.40	14.00-42.00	0.12-0.18	0.0-2.9	3.0-8.0	.15	.15	4	3	86
	12-19	---	---	5-25	1.30-1.40	14.00-42.00	0.12-0.18	0.0-2.9	0.5-2.0	.24	.24			
	19-34	---	---	20-35	1.45-1.55	4.00-14.00	0.14-0.20	0.0-2.9	0.5-2.0	.20	.20			
	34-38	---	---	8-18	1.40-1.60	14.00-42.00	0.06-0.10	0.0-2.9	0.0-0.5	.24	.24			
	38-80	---	---	2-10	1.40-1.65	14.00-141.00	0.02-0.05	0.0-2.9	0.5-1.0	.24	.24			
Urban land-----------	---	---	---	---	---	---	---	---	---	---	---	--	---	---
UdA:														
Udorthents, loamy----	0-80	---	---	7-27	1.30-1.65	0.01-14.00	0.10-0.17	3.0-5.9	0.0-1.0	.32	.37	5	5	56
Ur:														
Urban land-----------	---	---	---	---	---	---	---	---	---	---	---	--	---	---
WaA:														
Wahee----------------	0-7	---	---	5-27	1.20-1.50	4.00-14.00	0.15-0.20	0.0-2.9	0.5-5.0	.37	.37	5	6	48
	7-12	---	---	35-60	1.40-1.60	0.42-1.40	0.12-0.20	3.0-5.9	0.0-0.5	.37	.37			
	12-23	---	---	35-60	1.40-1.60	0.42-1.40	0.12-0.20	3.0-5.9	0.0-0.5	.32	.32			
	23-34	---	---	35-60	1.40-1.60	0.42-1.40	0.12-0.20	3.0-5.9	0.0-0.5	.37	.37			
	34-41	---	---	22-60	1.40-1.60	0.42-1.40	0.12-0.20	3.0-5.9	0.0-0.5	.43	.43			
	41-80	---	---	5-45	1.30-1.50	14.00-141.00	0.11-0.13	0.0-2.9	0.0-0.5	.32	.32			
WcA:														
Wasda----------------	0-10	---	---	7-27	0.40-0.65	1.40-4.00	0.20-0.25	---	20-60	---	---	5	2	134
	10-15	---	---	15-25	1.20-1.50	4.00-14.00	0.14-0.20	0.0-2.9	3.0-15	.10	.10			
	15-36	---	---	18-35	1.35-1.60	4.00-14.00	0.12-0.18	0.0-2.9	0.5-2.0	.17	.17			
	36-80	---	---	8-30	1.35-1.60	4.00-14.00	0.12-0.18	0.0-2.9	0.0-1.0	.32	.32			

Table 17.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
Conaby	0-12	---	---	7-27	0.40-0.65	1.40-14.00	0.20-0.26	0.0-2.9	20-60	---	---	5	2	134
	12-20	---	---	5-12	1.60-1.75	14.00-42.00	0.04-0.10	0.0-2.9	4.0-15	.10	.10			
	20-55	---	---	10-18	1.35-1.45	14.00-42.00	0.10-0.14	0.0-2.9	1.0-3.0	.20	.20			
	55-80	---	---	5-18	1.35-1.60	14.00-141.00	0.04-0.14	0.0-2.9	0.0-1.0	.32	.32			
WeA:														
Weeksville	0-6	---	---	5-18	1.30-1.50	4.00-14.00	0.18-0.26	0.0-2.9	3.0-8.0	.32	.32	5	5	56
	6-13	---	---	5-18	1.30-1.50	4.00-14.00	0.18-0.26	0.0-2.9	2.0-7.0	.37	.37			
	13-45	---	---	5-18	1.30-1.50	4.00-14.00	0.16-0.24	0.0-2.9	0.5-2.0	.49	.49			
	45-60	---	---	5-18	1.30-1.50	4.00-14.00	0.16-0.24	0.0-2.9	0.5-2.0	.49	.49			
	60-80	---	---	5-18	1.40-1.60	4.00-14.00	0.10-0.15	0.0-2.9	0.0-0.5	.32	.32			
YeA:														
Yeopim	0-5	---	---	4-20	1.20-1.40	4.00-14.00	0.15-0.20	0.0-2.9	0.5-2.0	.49	.49	5	5	56
	5-31	---	---	20-35	1.40-1.60	1.40-4.00	0.15-0.20	0.0-2.9	0.0-0.5	.49	.49			
	31-49	---	---	20-35	1.40-1.60	1.40-4.00	0.15-0.20	0.0-2.9	0.0-0.5	.49	.49			
	49-80	---	---	2-25	1.40-1.60	14.00-141.00	0.15-0.20	0.0-2.9	0.0-0.5	.24	.24			

Table 18.—Chemical Soil Properties

(Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Salinity
	Inches	meq/100 g	meq/100 g	pH	mmhos/cm
ApA:					
Arapahoe	0-17	3.5-23	2.6-17	3.5-6.0	0
	17-30	12-18	4.0-15	3.5-5.5	0
	30-42	12-18	4.0-15	3.5-6.5	0
	42-80	2.0-10	1.9-6.8	5.6-7.8	0
BaA:					
Barclay	0-7	5.8-14	4.3-10	4.5-6.5	0
	7-18	1.2-5.6	0.9-4.2	4.5-6.0	0
	18-49	1.2-5.6	0.9-4.2	4.5-6.0	0
	49-57	1.2-5.6	0.9-4.2	4.5-6.0	0
	57-80	0.8-4.1	0.6-3.1	4.5-6.0	0
BcA:					
Belhaven	0-9	45-225	34-169	2.0-5.5	0.0-2.0
	9-20	45-225	34-169	2.0-4.5	0.0-2.0
	20-24	15-38	11-28	3.5-5.5	0.0-2.0
	24-65	4.8-16	3.6-12	3.5-5.5	0.0-2.0
	65-80	0.5-4.2	0.4-3.2	3.5-5.5	0.0-2.0
BeA:					
Bertie	0-5	2.4-9.5	1.8-7.1	4.5-6.5	0
	5-23	5.0-9.9	3.8-7.4	4.5-6.0	0
	23-31	2.5-9.9	1.9-7.4	4.5-6.0	0
	31-80	0.1-4.6	0.1-3.5	4.5-6.0	0
BgA:					
Bertie	0-5	2.4-9.5	1.8-7.1	4.5-6.5	0
	5-23	5.0-9.9	3.8-7.4	4.5-6.0	0
	23-31	2.5-9.9	1.9-7.4	4.5-6.0	0
	31-80	0.1-4.6	0.1-3.5	4.5-6.0	0
Urban land	---	---	---	---	---
BoA:					
Bojac	0-8	1.9-4.2	1.4-3.2	3.5-7.3	0
	8-47	2.8-5.1	2.1-3.8	3.5-6.5	0
	47-85	0.2-3.1	0.2-2.3	3.5-6.0	0
CaA:					
Cape Lookout	0-7	4.0-28	3.0-21	4.5-6.5	0
	7-12	4.0-28	3.0-21	4.5-6.5	0
	12-16	13-28	10-21	3.5-6.0	0
	16-42	12-22	4.7-17	3.5-6.0	0
	42-50	6.3-15	4.7-11	3.5-6.0	0
	50-80	0.7-12	0.5-8.7	3.5-6.0	0
CfA:					
Cape Lookout	0-8	24-50	18-38	4.5-6.5	0
	8-37	13-28	10-21	3.5-6.0	0
	37-45	12-22	4.7-17	3.5-6.0	0
	45-50	6.3-15	4.7-11	3.5-6.0	0
	50-80	0.7-12	0.5-8.7	3.5-6.0	0

Table 18.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Salinity
	Inches	meq/100 g	meq/100 g	pH	mmhos/cm
ChA:					
Chapanoke------------	0-6	2.9-11	2.0-8.0	3.5-6.5	0
	6-12	4.5-9.9	3.0-9.0	3.5-6.0	0
	12-50	4.5-9.9	3.0-9.0	3.5-6.0	0
	50-62	1.8-7.9	1.0-6.0	3.5-6.0	0
	62-80	0.5-4.9	0.0-3.0	3.5-6.0	0
CsA:					
Chesapeake-----------	0-7	3.2-8.2	2.4-6.2	4.5-6.5	0
	7-28	4.5-9.6	3.4-7.2	3.5-6.0	0
	28-52	3.1-11	2.3-8.1	3.5-5.5	0
	52-58	2.4-6.0	1.8-4.5	3.5-5.5	0
	58-80	0.5-4.1	0.4-3.1	3.5-5.5	0
CwA:					
Chowan---------------	0-6	9.0-13	6.8-9.9	3.5-6.0	0
	6-27	1.8-9.9	1.3-7.4	3.5-6.0	0
	27-80	46-183	34-137	3.5-5.0	0
DeA:					
Deloss---------------	0-15	15-28	11-21	4.5-6.5	0
	15-45	5.6-13	4.2-9.9	4.5-6.0	0
	45-80	0.1-7.6	0.1-5.7	3.5-7.3	0
DoA:					
Dorovan--------------	0-5	45-180	34-135	3.6-5.0	0.0-2.0
	5-80	45-158	34-118	3.6-5.0	0.0-2.0
DrA:					
Dragston-------------	0-6	3.2-7.5	2.4-5.6	4.5-6.0	0
	6-10	1.6-5.2	1.2-3.9	4.5-5.5	0
	10-42	2.5-5.6	1.9-4.2	4.5-5.5	0
	42-80	0.5-4.1	0.4-3.1	4.5-6.5	0
DuA:					
Dragston-------------	0-6	3.2-7.5	2.4-5.6	4.5-6.0	0
	6-10	1.6-5.2	1.2-3.9	4.5-5.5	0
	10-42	2.5-5.6	1.9-4.2	4.5-5.5	0
	42-80	0.5-4.1	0.4-3.1	4.5-6.5	0
Urban land-----------	---	---	---	---	---
GeA:					
Gertie---------------	0-8	3.6-11	2.7-8.4	3.5-6.0	0
	8-13	5.0-9.9	3.8-7.4	3.5-5.5	0
	13-58	8.8-16	6.6-12	3.5-5.5	0
	58-80	1.2-14	0.9-10	3.5-5.5	0
GrA:					
Gertie---------------	0-4	3.6-11	2.7-8.4	3.5-6.0	0
	4-9	5.0-9.9	3.8-7.4	3.5-5.5	0
	9-41	6.9-15	3.5-7.1	3.5-5.5	0
	41-80	1.2-14	0.9-10	3.5-5.5	0
GtA:					
Gertie---------------	0-4	3.6-11	2.7-8.4	3.5-5.5	0
	4-9	5.0-9.9	3.8-7.4	3.5-5.5	0
	9-41	6.9-15	3.5-7.1	3.5-5.5	0
	41-80	1.2-14	0.9-10	3.5-5.5	0

Table 18.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Salinity
	Inches	meq/100 g	meq/100 g	pH	mmhos/cm
HyA:					
Hyde------------------	0-7	8.0-27	6.0-20	3.5-5.5	0
	7-13	6.2-18	4.7-14	3.5-5.5	0
	13-47	5.0-16	3.7-12	3.5-5.5	0
	47-51	5.0-16	3.7-12	3.5-5.5	0
	51-80	1.2-9.9	0.9-7.4	3.5-7.3	0
MuA:					
Munden----------------	0-8	3.2-7.5	2.4-5.6	4.5-6.5	0
	8-15	3.1-6.8	2.3-5.1	4.5-6.0	0
	15-25	3.1-6.8	2.3-5.1	4.5-6.0	0
	25-32	3.1-6.8	2.3-5.1	4.5-6.0	0
	32-80	0.5-4.1	0.4-3.1	4.5-6.0	0
NmA:					
Nimmo-----------------	0-6	3.2-7.5	2.4-5.6	3.5-5.5	0
	6-25	2.0-5.6	1.5-4.2	3.5-5.5	0
	25-80	0.2-3.1	0.2-2.3	3.5-6.5	0
NxA:					
Nixonton--------------	0-6	2.4-9.0	1.8-6.8	5.1-6.5	0
	6-9	2.4-9.0	1.8-6.8	5.1-6.5	0
	9-24	4.5-9.9	3.4-7.4	4.5-6.5	0
	24-35	4.0-9.9	3.0-7.4	4.5-6.5	0
	35-45	2.5-9.9	1.9-7.4	4.5-6.5	0
	45-50	2.0-7.4	1.5-5.5	4.5-6.5	0
	50-80	0.8-4.1	0.6-3.1	4.5-6.5	0
Yeopim----------------	0-8	2.1-9.5	1.6-7.1	4.5-6.5	0
	8-42	5.0-9.9	3.8-7.4	3.5-6.0	0
	42-55	0.5-7.4	0.4-5.5	3.5-6.0	0
	55-80	0.5-7.4	0.4-5.5	3.5-6.0	0
PaA:					
Pasquotank------------	0-6	5.8-16	4.3-12	4.5-6.0	0
	6-39	1.2-6.8	0.9-5.1	4.5-5.5	0
	39-44	1.2-6.8	0.9-5.1	4.5-5.5	0
	44-53	1.2-6.8	0.9-5.1	4.5-5.5	0
	53-80	1.2-6.8	0.9-5.1	4.5-5.5	0
PeA:					
Perquimans------------	0-5	6.5-15	4.9-11	4.5-6.5	0
	5-8	2.0-8.5	1.5-6.4	4.5-6.5	0
	8-50	4.5-11	3.4-8.2	4.5-6.0	0
	50-80	2.0-7.4	1.5-5.5	4.5-6.0	0
PgA:					
Pettigrew-------------	0-6	47-119	35-89	3.5-5.5	0
	6-11	47-232	35-174	3.5-5.5	0
	11-16	12-52	8.6-39	3.5-5.5	0
	16-30	12-52	8.6-39	3.5-5.5	0
	30-37	9.9-20	7.4-15	3.5-5.5	0
	37-80	0.1-6.1	0.1-4.6	5.1-7.8	0
PoA:					
Portsmouth------------	0-12	8.0-24	6.0-18	3.5-6.0	0
	12-19	2.4-11	1.8-8.1	3.5-6.0	0
	19-35	6.1-13	4.6-9.9	3.5-5.5	0
	35-38	2.0-5.6	1.5-4.2	3.5-5.5	0
	38-80	1.6-4.8	1.2-3.6	3.5-7.8	0

Table 18.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Salinity
	Inches	meq/100 g	meq/100 g	pH	mmhos/cm
PrA:					
Portsmouth-----------	0-10	18-62	14-47	3.5-6.0	0
	10-15	3.6-11	2.7-8.1	3.5-6.0	0
	15-20	1.1-9.5	0.8-7.1	3.5-6.0	0
	20-34	6.1-13	4.6-9.9	3.5-5.5	0
	34-40	2.0-5.6	1.5-4.2	3.5-5.5	0
	40-80	2.0-10	1.2-3.6	3.5-7.8	0
PuA:					
Pungo----------------	0-97	92-232	69-174	2.0-4.4	0
	97-99	2.0-26	1.5-20	3.5-7.3	0
RoA:					
Roper----------------	0-8	47-142	35-106	3.5-6.0	0
	8-11	47-232	35-174	3.5-5.5	0
	11-17	11-42	8.4-32	3.5-5.5	0
	17-41	4.5-13	3.4-9.9	3.5-7.8	0
	41-80	0.1-6.1	0.1-4.6	3.5-7.8	0
SeA:					
Seabrook-------------	0-8	1.6-7.5	1.2-5.6	4.5-6.5	0
	8-81	0.0-4.1	0.0-3.1	4.5-6.5	0
TeA:					
Tetotum--------------	0-9	2.4-8.2	1.8-6.2	3.5-6.0	0
	9-38	4.5-9.9	3.4-7.4	3.5-5.5	0
	38-48	4.5-9.9	3.4-7.4	3.5-5.5	0
	48-80	1.2-4.9	0.9-3.7	3.5-5.5	0
TmA:					
Tetotum--------------	0-9	2.4-8.2	1.8-6.2	3.5-6.0	0
	9-38	4.5-9.9	3.4-7.4	3.5-5.5	0
	38-48	4.5-9.9	3.4-7.4	3.5-5.5	0
	48-80	1.2-4.9	0.9-3.7	3.5-5.5	0
Urban land-----------	---	---	---	---	---
ToA:					
Tomotley-------------	0-7	3.5-18	2.6-14	3.5-6.5	0
	7-12	5.6-11	4.2-8.2	3.5-6.5	0
	12-42	3.8-12	2.8-9.3	3.5-5.5	0
	42-50	0.1-6.1	0.1-4.6	3.5-6.0	0
	50-80	0.1-6.1	0.1-4.6	3.5-6.0	0
TuA:					
Tomotley-------------	0-7	3.5-18	2.6-14	3.5-6.5	0
	7-12	5.6-11	4.2-8.2	3.5-6.5	0
	12-42	3.8-12	2.8-9.3	3.5-5.5	0
	42-50	0.1-6.1	0.1-4.6	3.5-6.0	0
	50-80	0.1-6.1	0.1-4.6	3.5-6.0	0
Portsmouth-----------	0-12	8.0-24	6.0-18	3.5-6.0	0
	12-19	2.4-11	1.8-8.1	3.5-6.0	0
	19-34	6.1-13	4.6-9.9	3.5-5.5	0
	34-38	2.0-5.6	1.5-4.2	3.5-5.5	0
	38-80	1.6-4.8	1.2-3.6	3.5-7.8	0
Urban land-----------	---	---	---	---	---

Table 18.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Salinity
	Inches	meq/100 g	meq/100 g	pH	mmhos/cm
UdA:					
Udorthents, loamy----	0-80	1.8-9.0	1.3-6.8	3.5-7.8	0
Ur:					
Urban land-----------	---	---	---	---	---
WaA:					
Wahee----------------	0-7	2.9-21	2.2-16	4.5-6.5	0
	7-12	12-22	9.2-17	3.5-6.0	0
	12-23	12-22	9.2-17	3.5-5.5	0
	23-34	12-22	9.2-17	3.5-5.5	0
	34-41	7.7-22	5.8-17	3.5-5.5	0
	41-80	1.8-17	1.3-13	3.5-5.5	0
WcA:					
Wasda----------------	0-10	47-142	35-106	3.5-6.0	0
	10-15	10-40	7.9-30	3.5-5.5	0
	15-36	5.6-13	4.2-9.9	3.5-5.5	0
	36-80	2.0-9.8	1.5-7.3	4.5-7.8	0
Conaby---------------	0-12	47-142	35-106	3.5-6.0	0
	12-20	10-37	7.7-28	3.5-5.5	0
	20-55	4.8-11	3.6-8.4	3.5-5.5	0
	55-80	1.2-6.8	0.9-5.1	4.5-7.8	0
WeA:					
Weeksville-----------	0-6	8.0-22	6.0-17	4.5-6.0	0
	6-13	5.8-20	4.3-15	4.5-5.5	0
	13-45	2.4-9.0	1.8-6.8	4.5-5.5	0
	45-60	2.4-9.0	1.8-6.8	4.5-5.5	0
	60-80	1.2-5.6	0.9-4.2	4.5-6.0	0
YeA:					
Yeopim---------------	0-5	2.1-9.5	1.6-7.1	4.5-6.5	0
	5-31	5.0-9.9	3.8-7.4	3.5-6.0	0
	31-49	5.0-9.9	3.8-7.4	3.5-6.0	0
	49-80	0.5-7.4	0.4-5.5	3.5-6.0	0

Table 19.—Water Features

(Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
ApA:										
Arapahoe, drained---------	B/D	Very high								
			January	0.0-1.0	>6.0	---	---	None	---	None
			February	0.0-1.0	>6.0	---	---	None	---	None
			March	0.5-1.5	>6.0	---	---	None	---	None
			April	1.5-4.0	>6.0	---	---	None	---	None
			May	4.0-5.0	>6.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	1.5-4.0	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
Arapahoe, undrained-------	B/D	Very high								
			January	0.0-1.0	>6.0	---	---	None	---	None
			February	0.0-1.0	>6.0	---	---	None	---	None
			March	0.0-1.0	>6.0	---	---	None	---	None
			April	0.0-1.0	>6.0	---	---	None	---	None
			May	1.0-2.5	>6.0	---	---	None	---	None
			June	1.5-4.0	>6.0	---	---	None	---	None
			July	4.0-5.0	>6.0	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	1.0-2.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None

Table 19.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
BaA:										
Barclay, drained----------	C	Very high								
			January	1.0-1.5	>6.0	---	---	None	---	None
			February	1.0-1.5	>6.0	---	---	None	---	None
			March	1.5-2.5	>6.0	---	---	None	---	None
			April	2.0-3.0	>6.0	---	---	None	---	None
			May	4.0-5.0	>6.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	2.0-3.0	>6.0	---	---	None	---	None
			November	1.0-1.5	>6.0	---	---	None	---	None
			December	1.0-1.5	>6.0	---	---	None	---	None
Barclay, undrained--------	C	Very high								
			January	1.0-1.5	>6.0	---	---	None	---	None
			February	1.0-1.5	>6.0	---	---	None	---	None
			March	1.0-1.5	>6.0	---	---	None	---	None
			April	1.5-2.5	>6.0	---	---	None	---	None
			May	2.0-3.0	>6.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	4.0-5.0	>6.0	---	---	None	---	None
			October	2.0-3.0	>6.0	---	---	None	---	None
			November	1.0-1.5	>6.0	---	---	None	---	None
			December	1.0-1.5	>6.0	---	---	None	---	None
BcA:										
Belhaven, drained---------	D	Very high								
			January	0.0-1.0	>6.0	---	---	None	---	None
			February	0.0-1.0	>6.0	---	---	None	---	None
			March	0.0-1.0	>6.0	---	---	None	---	None
			April	1.0-2.5	>6.0	---	---	None	---	None
			May	4.0-5.0	>6.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	1.5-4.0	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None

Table 19.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
Belhaven, undrained-------	D	Very high								
			January	0.0-0.5	>6.0	---	---	None	---	None
			February	0.0-0.5	>6.0	---	---	None	---	None
			March	0.0-1.0	>6.0	---	---	None	---	None
			April	0.0-1.0	>6.0	---	---	None	---	None
			May	1.0-2.5	>6.0	---	---	None	---	None
			June	1.5-4.0	>6.0	---	---	None	---	None
			July	1.5-4.0	>6.0	---	---	None	---	None
			August	1.5-4.0	>6.0	---	---	None	---	None
			September	1.5-4.0	>6.0	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	1.0-2.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
BeA:										
Bertie, drained-----------	C	Very high								
			January	1.0-2.0	>6.0	---	---	None	---	None
			February	1.0-2.0	>6.0	---	---	None	---	None
			March	1.5-2.0	>6.0	---	---	None	---	None
			April	2.0-2.5	>6.0	---	---	None	---	None
			May	4.0-6.0	>6.0	---	---	None	---	None
			June	4.0-6.0	>6.0	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	4.0-6.0	>6.0	---	---	None	---	None
			November	1.5-2.0	>6.0	---	---	None	---	None
			December	1.0-2.0	>6.0	---	---	None	---	None
Bertie, undrained---------	C	Very high								
			January	1.0-2.0	>6.0	---	---	None	---	None
			February	1.0-2.0	>6.0	---	---	None	---	None
			March	1.0-2.0	>6.0	---	---	None	---	None
			April	1.5-2.0	>6.0	---	---	None	---	None
			May	2.0-2.5	>6.0	---	---	None	---	None
			June	4.0-6.0	>6.0	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	4.0-6.0	>6.0	---	---	None	---	None
			November	1.5-2.0	>6.0	---	---	None	---	None
			December	1.0-2.0	>6.0	---	---	None	---	None

Table 19.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
BgA:										
Bertie--------------------	C	Very high								
			January	1.0-2.0	>6.0	---	---	None	---	None
			February	1.0-2.0	>6.0	---	---	None	---	None
			March	1.0-2.0	>6.0	---	---	None	---	None
			April	1.5-2.0	>6.0	---	---	None	---	None
			May	2.0-2.5	>6.0	---	---	None	---	None
			June	4.0-6.0	>6.0	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	4.0-6.0	>6.0	---	---	None	---	None
			November	1.5-2.0	>6.0	---	---	None	---	None
			December	1.0-2.0	>6.0	---	---	None	---	None
Urban land----------------	---	---								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
BoA:										
Bojac---------------------	A	Very low								
			January	4.0-6.0	>6.0	---	---	None	---	None
			February	4.0-6.0	>6.0	---	---	None	---	None
			March	4.0-6.0	>6.0	---	---	None	---	None
			April	5.0-6.0	>6.0	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	5.0-6.0	>6.0	---	---	None	---	None
			November	4.0-6.0	>6.0	---	---	None	---	None
			December	4.0-6.0	>6.0	---	---	None	---	None

Table 19.—Water Features—Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
CaA:										
Cape Lookout, drained-----	C/D	Very high								
			January	0.0-1.0	>6.0	---	---	None	---	None
			February	0.0-1.0	>6.0	---	---	None	---	None
			March	0.0-1.0	>6.0	---	---	None	---	None
			April	1.0-2.5	>6.0	---	---	None	---	None
			May	4.0-5.0	>6.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	1.0-2.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
Cape Lookout, undrained---	C/D	Very high								
			January	0.0-1.0	>6.0	---	---	None	---	None
			February	0.0-1.0	>6.0	---	---	None	---	None
			March	0.0-1.0	>6.0	---	---	None	---	None
			April	0.0-1.0	>6.0	---	---	None	---	None
			May	1.0-2.5	>6.0	---	---	None	---	None
			June	1.5-4.0	>6.0	---	---	None	---	None
			July	4.0-5.0	>6.0	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	1.0-2.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
CfA:										
Cape Lookout, drained-----	C/D	Very high								
			January	0.0-1.0	>6.0	---	---	None	---	None
			February	0.0-1.0	>6.0	---	---	None	---	None
			March	0.0-1.0	>6.0	---	---	None	---	None
			April	1.0-2.5	>6.0	---	---	None	---	None
			May	4.0-5.0	>6.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	1.0-2.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None

Table 19.—Water Features—Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
Cape Lookout, undrained---	C/D	Very high								
			January	0.0-1.0	>6.0	---	---	None	---	None
			February	0.0-1.0	>6.0	---	---	None	---	None
			March	0.0-1.0	>6.0	---	---	None	---	None
			April	0.0-1.0	>6.0	---	---	None	---	None
			May	1.0-2.5	>6.0	---	---	None	---	None
			June	1.5-4.0	>6.0	---	---	None	---	None
			July	4.0-5.0	>6.0	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	1.0-2.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
ChA:										
Chapanoke, drained--------	C/D	Very high								
			January	1.0-2.0	>6.0	---	---	None	---	None
			February	1.0-2.0	>6.0	---	---	None	---	None
			March	1.5-2.5	>6.0	---	---	None	---	None
			April	2.0-3.0	>6.0	---	---	None	---	None
			May	4.0-5.0	>6.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	2.0-3.0	>6.0	---	---	None	---	None
			October	2.0-3.0	>6.0	---	---	None	---	None
			November	1.0-2.0	>6.0	---	---	None	---	None
			December	1.0-2.0	>6.0	---	---	None	---	None
Chapanoke, undrained------	C/D	Very high								
			January	1.0-2.0	>6.0	---	---	None	---	None
			February	1.0-2.0	>6.0	---	---	None	---	None
			March	1.0-2.0	>6.0	---	---	None	---	None
			April	1.5-2.5	>6.0	---	---	None	---	None
			May	2.0-3.0	>6.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	2.0-3.0	>6.0	---	---	None	---	None
			October	2.0-3.0	>6.0	---	---	None	---	None
			November	1.0-2.0	>6.0	---	---	None	---	None
			December	1.0-2.0	>6.0	---	---	None	---	None

Table 19.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
CsA:										
Chesapeake----------------	B	Low								
			January	4.0-6.0	>6.0	---	---	None	---	None
			February	4.0-6.0	>6.0	---	---	None	---	None
			March	4.0-6.0	>6.0	---	---	None	---	None
			April	5.0-6.0	>6.0	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	5.0-6.0	>6.0	---	---	None	---	None
			November	4.0-6.0	>6.0	---	---	None	---	None
			December	4.0-6.0	>6.0	---	---	None	---	None
CwA:										
Chowan, undrained---------	D	Very high								
			January	0.0-0.5	>6.0	---	---	None	Very long	Frequent
			February	0.0-0.5	>6.0	---	---	None	Very long	Frequent
			March	0.0-0.5	>6.0	---	---	None	Very long	Frequent
			April	0.0-1.0	>6.0	---	---	None	Very long	Frequent
			May	0.0-1.0	>6.0	---	---	None	Very long	Frequent
			June	0.0-1.0	>6.0	---	---	None	Very long	Frequent
			July	0.0-1.5	>6.0	---	---	None	Very long	Frequent
			August	0.0-1.5	>6.0	---	---	None	Very long	Frequent
			September	0.0-1.5	>6.0	---	---	None	Very long	Frequent
			October	0.0-1.0	>6.0	---	---	None	Very long	Frequent
			November	0.0-0.5	>6.0	---	---	None	Very long	Frequent
			December	0.0-0.5	>6.0	---	---	None	Very long	Frequent
DeA:										
Deloss, drained-----------	B/D	Very high								
			January	0.0-1.0	>6.0	---	---	None	---	None
			February	0.0-1.0	>6.0	---	---	None	---	None
			March	0.0-1.0	>6.0	---	---	None	---	None
			April	1.0-2.5	>6.0	---	---	None	---	None
			May	1.5-4.0	>6.0	---	---	None	---	None
			June	4.0-5.0	>6.0	---	---	None	---	None
			July	4.0-5.0	>6.0	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	1.0-2.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None

Table 19.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
Deloss, undrained---------	B/D	Negligible								
			January	0.0-1.0	>6.0	---	---	Rare	---	None
			February	0.0-1.0	>6.0	---	---	Rare	---	None
			March	0.0-1.0	>6.0	---	---	Rare	---	None
			April	0.0-1.0	>6.0	---	---	Rare	---	None
			May	1.0-2.5	>6.0	---	---	Rare	---	None
			June	1.5-4.0	>6.0	---	---	Rare	---	None
			July	4.0-5.0	>6.0	---	---	Rare	---	None
			August	---	---	---	---	Rare	---	None
			September	---	---	---	---	Rare	---	None
			October	4.0-5.0	>6.0	---	---	Rare	---	None
			November	1.0-2.5	>6.0	---	---	Rare	---	None
			December	0.0-1.0	>6.0	---	---	Rare	---	None
DoA:										
Dorovan, undrained--------	D	Very high								
			January	0.0-0.5	>6.0	---	---	None	Long	Frequent
			February	0.0-0.5	>6.0	---	---	None	Long	Frequent
			March	0.0-0.5	>6.0	---	---	None	Long	Frequent
			April	0.0-0.5	>6.0	---	---	None	Long	Frequent
			May	0.0-0.5	>6.0	---	---	None	Long	Frequent
			June	0.0-0.5	>6.0	---	---	None	Long	Frequent
			July	0.0-0.5	>6.0	---	---	None	Long	Frequent
			August	0.0-0.5	>6.0	---	---	None	Long	Frequent
			September	0.0-0.5	>6.0	---	---	None	Long	Frequent
			October	0.0-0.5	>6.0	---	---	None	Long	Frequent
			November	0.0-0.5	>6.0	---	---	None	Long	Frequent
			December	0.0-0.5	>6.0	---	---	None	Long	Frequent
DrA:										
Dragston, drained---------	C	Very low								
			January	1.0-2.5	>6.0	---	---	None	---	None
			February	1.0-2.5	>6.0	---	---	None	---	None
			March	1.5-4.0	>6.0	---	---	None	---	None
			April	4.0-5.0	>6.0	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	4.0-5.0	>6.0	---	---	None	---	None
			December	1.0-2.5	>6.0	---	---	None	---	None

Table 19.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
Dragston, undrained-------	C	Very low								
			January	1.0-2.5	>6.0	---	---	None	---	None
			February	1.0-2.5	>6.0	---	---	None	---	None
			March	1.0-2.5	>6.0	---	---	None	---	None
			April	1.5-2.5	>6.0	---	---	None	---	None
			May	1.5-4.0	>6.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	4.0-5.0	>6.0	---	---	None	---	None
			December	1.0-2.5	>6.0	---	---	None	---	None
DuA:										
Dragston, drained---------	C	Very low								
			January	1.0-2.5	>6.0	---	---	None	---	None
			February	1.0-2.5	>6.0	---	---	None	---	None
			March	1.5-4.0	>6.0	---	---	None	---	None
			April	4.0-5.0	>6.0	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	4.0-5.0	>6.0	---	---	None	---	None
			December	1.0-2.5	>6.0	---	---	None	---	None
Urban land----------------	---	---								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Table 19.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
GeA:										
Gertie, drained-----------	D	Very high								
			January	0.0-1.0	>6.0	---	---	None	---	None
			February	0.5-1.5	>6.0	---	---	None	---	None
			March	1.0-2.5	>6.0	---	---	None	---	None
			April	1.5-4.0	>6.0	---	---	None	---	None
			May	4.0-5.0	>6.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	1.5-4.0	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
Gertie, undrained---------	D	Very high								
			January	0.0-1.0	>6.0	---	---	None	---	None
			February	0.0-1.0	>6.0	---	---	None	---	None
			March	0.0-1.0	>6.0	---	---	None	---	None
			April	0.5-1.0	>6.0	---	---	None	---	None
			May	1.0-2.5	>6.0	---	---	None	---	None
			June	1.5-4.0	>6.0	---	---	None	---	None
			July	4.0-5.0	>6.0	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	0.5-1.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
GrA:										
Gertie, drained-----------	D	Very high								
			January	0.0-1.0	>6.0	---	---	None	---	None
			February	0.5-1.5	>6.0	---	---	None	---	None
			March	1.0-2.5	>6.0	---	---	None	---	None
			April	1.5-4.0	>6.0	---	---	None	---	None
			May	4.0-5.0	>6.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	1.5-4.0	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None

Table 19.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
Gertie, undrained---------	D	Very high								
			January	0.0-1.0	>6.0	---	---	None	---	None
			February	0.0-1.0	>6.0	---	---	None	---	None
			March	0.0-1.0	>6.0	---	---	None	---	None
			April	0.5-1.0	>6.0	---	---	None	---	None
			May	1.0-2.5	>6.0	---	---	None	---	None
			June	1.5-4.0	>6.0	---	---	None	---	None
			July	4.0-5.0	>6.0	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	0.5-1.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
GtA:										
Gertie, undrained---------	D	Negligible								
			January	0.0-1.0	>6.0	---	---	Rare	Very brief	Frequent
			February	0.0-1.0	>6.0	---	---	Rare	Very brief	Frequent
			March	0.0-1.0	>6.0	---	---	Rare	Very brief	Frequent
			April	0.5-1.0	>6.0	---	---	Rare	Very brief	Frequent
			May	1.0-2.5	>6.0	---	---	Rare	Very brief	Frequent
			June	4.0-5.0	>6.0	---	---	Rare	Very brief	Frequent
			October	4.0-5.0	>6.0	---	---	Rare	---	---
			November	0.5-1.5	>6.0	---	---	Rare	Very brief	Frequent
			December	0.0-1.0	>6.0	---	---	Rare	Very brief	Frequent
Gertie, drained-----------	D	Very high								
			January	0.0-1.0	>6.0	---	---	None	Very brief	Frequent
			February	0.0-1.0	>6.0	---	---	None	Very brief	Frequent
			March	0.5-1.5	>6.0	---	---	None	Very brief	Frequent
			April	1.0-2.5	>6.0	---	---	None	Very brief	Frequent
			May	1.5-4.0	>6.0	---	---	None	Very brief	Frequent
			June	---	---	---	---	None	Very brief	Frequent
			November	0.5-1.5	>6.0	---	---	None	Very brief	Frequent
			December	0.0-1.0	>6.0	---	---	None	Very brief	Frequent

Table 19.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
HyA:										
Hyde, drained	C/D	Very high								
			January	0.0-1.0	>6.0	---	---	None	---	None
			February	0.0-1.0	>6.0	---	---	None	---	None
			March	0.0-1.0	>6.0	---	---	None	---	None
			April	0.5-1.0	>6.0	---	---	None	---	None
			May	4.0-5.0	>6.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	1.5-4.0	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
Hyde, undrained	C/D	Very high								
			January	0.0-1.0	>6.0	---	---	None	---	None
			February	0.0-1.0	>6.0	---	---	None	---	None
			March	0.0-1.0	>6.0	---	---	None	---	None
			April	0.5-1.0	>6.0	---	---	None	---	None
			May	1.5-4.0	>6.0	---	---	None	---	None
			June	4.0-5.0	>6.0	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	0.5-1.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
MuA:										
Munden	B	Very high								
			January	1.5-2.5	>6.0	---	---	None	---	None
			February	1.5-2.5	>6.0	---	---	None	---	None
			March	1.5-2.5	>6.0	---	---	None	---	None
			April	2.0-2.5	>6.0	---	---	None	---	None
			May	2.5-3.0	>6.0	---	---	None	---	None
			June	4.0-6.0	>6.0	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	4.0-6.0	>6.0	---	---	None	---	None
			November	2.0-2.5	>6.0	---	---	None	---	None
			December	1.5-2.5	>6.0	---	---	None	---	None

Table 19.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
NmA:										
Nimmo, drained	B/D	Very high								
			January	0.0-1.0	>6.0	---	---	None	---	None
			February	0.5-1.5	>6.0	---	---	None	---	None
			March	1.0-2.5	>6.0	---	---	None	---	None
			April	1.5-4.0	>6.0	---	---	None	---	None
			May	4.0-5.0	>6.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	1.5-4.0	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
Nimmo, undrained	B/D	Very high								
			January	0.0-1.0	>6.0	---	---	None	---	None
			February	0.0-1.0	>6.0	---	---	None	---	None
			March	0.0-1.0	>6.0	---	---	None	---	None
			April	0.0-1.0	>6.0	---	---	None	---	None
			May	1.5-4.0	>6.0	---	---	None	---	None
			June	4.0-5.0	>6.0	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	0.5-1.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
NxA:										
Nixonton	C	Low								
			January	4.0-6.0	>6.0	---	---	None	---	None
			February	4.0-6.0	>6.0	---	---	None	---	None
			March	4.0-6.0	>6.0	---	---	None	---	None
			April	5.0-6.0	>6.0	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	5.0-6.0	>6.0	---	---	None	---	None
			November	4.0-6.0	>6.0	---	---	None	---	None
			December	4.0-6.0	>6.0	---	---	None	---	None

Table 19.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
Yeopim--------------------	C	Very high								
			January	1.5-3.0	>6.0	---	---	None	---	None
			February	1.5-3.0	>6.0	---	---	None	---	None
			March	1.5-3.0	>6.0	---	---	None	---	None
			April	2.0-3.0	>6.0	---	---	None	---	None
			May	2.5-3.0	>6.0	---	---	None	---	None
			June	4.0-6.0	>6.0	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	4.0-6.0	>6.0	---	---	None	---	None
			November	2.0-3.0	>6.0	---	---	None	---	None
			December	1.5-3.0	>6.0	---	---	None	---	None
PaA:										
Pasquotank, drained-------	B/D	Very high								
			January	0.0-1.0	>6.0	---	---	None	---	None
			February	0.5-1.5	>6.0	---	---	None	---	None
			March	1.0-2.5	>6.0	---	---	None	---	None
			April	1.5-4.0	>6.0	---	---	None	---	None
			May	4.0-5.0	>6.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	1.5-4.0	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
Pasquotank, undrained-----	B/D	Very high								
			January	0.0-1.0	>6.0	---	---	None	---	None
			February	0.0-1.0	>6.0	---	---	None	---	None
			March	0.0-1.0	>6.0	---	---	None	---	None
			April	0.5-1.0	>6.0	---	---	None	---	None
			May	1.0-2.5	>6.0	---	---	None	---	None
			June	1.5-4.0	>6.0	---	---	None	---	None
			July	4.0-5.0	>6.0	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	0.5-1.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None

Table 19.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
PeA:										
Perquimans, drained-------	C/D	Very high								
			January	0.0-1.0	>6.0	---	---	None	---	None
			February	0.5-1.5	>6.0	---	---	None	---	None
			March	1.0-2.5	>6.0	---	---	None	---	None
			April	1.5-4.0	>6.0	---	---	None	---	None
			May	4.0-5.0	>6.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	1.5-4.0	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
Perquimans, undrained-----	C/D	Very high								
			January	0.0-1.0	>6.0	---	---	None	---	None
			February	0.0-1.0	>6.0	---	---	None	---	None
			March	0.0-1.0	>6.0	---	---	None	---	None
			April	0.5-1.0	>6.0	---	---	None	---	None
			May	1.0-2.5	>6.0	---	---	None	---	None
			June	1.5-4.0	>6.0	---	---	None	---	None
			July	4.0-5.0	>6.0	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	0.5-1.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
PgA:										
Pettigrew, drained--------	D	Very high								
			January	0.0-1.0	>6.0	---	---	None	---	None
			February	0.0-1.0	>6.0	---	---	None	---	None
			March	0.0-1.0	>6.0	---	---	None	---	None
			April	1.0-2.5	>6.0	---	---	None	---	None
			May	4.0-5.0	>6.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	1.5-4.0	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None

Table 19.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
Pettigrew, undrained------	D	Very high								
			January	0.0-0.5	>6.0	---	---	None	---	None
			February	0.0-0.5	>6.0	---	---	None	---	None
			March	0.0-1.0	>6.0	---	---	None	---	None
			April	0.0-1.0	>6.0	---	---	None	---	None
			May	1.0-2.5	>6.0	---	---	None	---	None
			June	4.0-5.0	>6.0	---	---	None	---	None
			July	4.0-5.0	>6.0	---	---	None	---	None
			August	4.0-5.0	>6.0	---	---	None	---	None
			September	4.0-5.0	>6.0	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	1.0-2.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
PoA:										
Portsmouth, drained-------	B/D	Very high								
			January	0.0-1.0	>6.0	---	---	None	---	None
			February	0.0-1.0	>6.0	---	---	None	---	None
			March	0.5-1.5	>6.0	---	---	None	---	None
			April	1.5-4.0	>6.0	---	---	None	---	None
			May	4.0-5.0	>6.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	1.5-4.0	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
Portsmouth, undrained-----	B/D	Very high								
			January	0.0-1.0	>6.0	---	---	None	---	None
			February	0.0-1.0	>6.0	---	---	None	---	None
			March	0.0-1.0	>6.0	---	---	None	---	None
			April	0.0-1.0	>6.0	---	---	None	---	None
			May	1.0-2.5	>6.0	---	---	None	---	None
			June	1.5-4.0	>6.0	---	---	None	---	None
			July	4.0-5.0	>6.0	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	1.0-2.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None

Table 19.—Water Features—Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
PrA:										
Portsmouth, drained-------	B/D	Very high								
			January	0.0-1.0	>6.0	---	---	None	---	None
			February	0.0-1.0	>6.0	---	---	None	---	None
			March	0.5-1.5	>6.0	---	---	None	---	None
			April	1.5-4.0	>6.0	---	---	None	---	None
			May	4.0-5.0	>6.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	1.5-4.0	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
Portsmouth, undrained-----	B/D	Very high								
			January	0.0-1.0	>6.0	---	---	None	---	None
			February	0.0-1.0	>6.0	---	---	None	---	None
			March	0.0-1.0	>6.0	---	---	None	---	None
			April	0.0-1.0	>6.0	---	---	None	---	None
			May	1.0-2.5	>6.0	---	---	None	---	None
			June	1.5-4.0	>6.0	---	---	None	---	None
			July	4.0-5.0	>6.0	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	1.0-2.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
PuA:										
Pungo, undrained----------	D	Very high								
			January	0.0-0.5	>6.0	---	---	None	---	None
			February	0.0-0.5	>6.0	---	---	None	---	None
			March	0.0-1.0	>6.0	---	---	None	---	None
			April	0.0-1.0	>6.0	---	---	None	---	None
			May	1.0-2.5	>6.0	---	---	None	---	None
			June	1.5-4.0	>6.0	---	---	None	---	None
			July	1.5-4.0	>6.0	---	---	None	---	None
			August	1.5-4.0	>6.0	---	---	None	---	None
			September	1.5-4.0	>6.0	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	1.0-2.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None

Table 19.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
Pungo, drained------------	D	Very high								
			January	0.0-1.0	>6.0	---	---	None	---	None
			February	0.0-1.0	>6.0	---	---	None	---	None
			March	0.0-1.0	>6.0	---	---	None	---	None
			April	1.0-2.5	>6.0	---	---	None	---	None
			May	4.0-5.0	>6.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	1.5-4.0	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
RoA:										
Roper, drained------------	C/D	Very high								
			January	0.0-1.0	>6.0	---	---	None	---	None
			February	0.0-1.0	>6.0	---	---	None	---	None
			March	0.0-1.0	>6.0	---	---	None	---	None
			April	1.0-2.5	>6.0	---	---	None	---	None
			May	4.0-5.0	>6.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	1.5-4.0	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
Roper, undrained----------	C/D	Very high								
			January	0.0-0.5	>6.0	---	---	None	---	None
			February	0.0-0.5	>6.0	---	---	None	---	None
			March	0.0-1.0	>6.0	---	---	None	---	None
			April	0.0-1.0	>6.0	---	---	None	---	None
			May	1.0-2.5	>6.0	---	---	None	---	None
			June	4.0-5.0	>6.0	---	---	None	---	None
			July	4.0-5.0	>6.0	---	---	None	---	None
			August	4.0-5.0	>6.0	---	---	None	---	None
			September	4.0-5.0	>6.0	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	1.0-2.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None

Table 19.—Water Features—Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
SeA:										
Seabrook------------------	B	Very low								
			January	2.0-3.5	>6.0	---	---	None	---	None
			February	2.0-3.5	>6.0	---	---	None	---	None
			March	2.0-3.5	>6.0	---	---	None	---	None
			April	3.5-5.0	>6.0	---	---	None	---	None
			May	5.0-5.5	>6.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	5.0-5.5	>6.0	---	---	None	---	None
			November	2.0-3.5	>6.0	---	---	None	---	None
			December	2.0-3.5	>6.0	---	---	None	---	None
TeA:										
Tetotum-------------------	C	Low								
			January	1.5-2.5	>6.0	---	---	None	---	None
			February	1.5-2.5	>6.0	---	---	None	---	None
			March	1.5-2.5	>6.0	---	---	None	---	None
			April	2.0-2.5	>6.0	---	---	None	---	None
			May	2.5-3.0	>6.0	---	---	None	---	None
			June	4.0-6.0	>6.0	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	4.0-6.0	>6.0	---	---	None	---	None
			November	2.0-2.5	>6.0	---	---	None	---	None
			December	1.5-2.5	>6.0	---	---	None	---	None
TmA:										
Tetotum-------------------	C	Low								
			January	1.5-2.5	>6.0	---	---	None	---	None
			February	1.5-2.5	>6.0	---	---	None	---	None
			March	1.5-2.5	>6.0	---	---	None	---	None
			April	2.0-2.5	>6.0	---	---	None	---	None
			May	2.5-3.0	>6.0	---	---	None	---	None
			June	4.0-6.0	>6.0	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	4.0-6.0	>6.0	---	---	None	---	None
			November	2.0-2.5	>6.0	---	---	None	---	None
			December	1.5-2.5	>6.0	---	---	None	---	None

Table 19.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
Urban land----------------	---	---								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
ToA:										
Tomotley, drained---------	B/D	Very high								
			January	0.0-1.0	>6.0	---	---	None	---	None
			February	0.5-1.5	>6.0	---	---	None	---	None
			March	1.0-2.5	>6.0	---	---	None	---	None
			April	1.5-4.0	>6.0	---	---	None	---	None
			May	4.0-5.0	>6.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	1.5-4.0	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
Tomotley, undrained-------	B/D	Very high								
			January	0.0-1.0	>6.0	---	---	None	---	None
			February	0.0-1.0	>6.0	---	---	None	---	None
			March	0.0-1.0	>6.0	---	---	None	---	None
			April	0.5-1.0	>6.0	---	---	None	---	None
			May	1.0-2.5	>6.0	---	---	None	---	None
			June	1.5-4.0	>6.0	---	---	None	---	None
			July	4.0-5.0	>6.0	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	0.5-1.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None

Table 19.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
TuA:										
Tomotley, drained---------	B/D	Very high								
			January	0.0-1.0	>6.0	---	---	None	---	None
			February	0.5-1.5	>6.0	---	---	None	---	None
			March	1.0-2.5	>6.0	---	---	None	---	None
			April	1.5-4.0	>6.0	---	---	None	---	None
			May	4.0-5.0	>6.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	1.5-4.0	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
Portsmouth, drained-------	B/D	Very high								
			January	0.0-1.0	>6.0	---	---	None	---	None
			February	0.0-1.0	>6.0	---	---	None	---	None
			March	0.5-1.5	>6.0	---	---	None	---	None
			April	1.5-4.0	>6.0	---	---	None	---	None
			May	4.0-5.0	>6.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	1.5-4.0	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
Urban land----------------	---	---								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Table 19.—Water Features—Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
UdA:										
Udorthents, loamy	B	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Ur:										
Urban land	---	---								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
WaA:										
Wahee, drained	C/D	Very high								
			January	0.5-1.5	>6.0	---	---	None	---	None
			February	0.5-1.5	>6.0	---	---	None	---	None
			March	1.0-2.0	>6.0	---	---	None	---	None
			April	2.0-2.5	>6.0	---	---	None	---	None
			May	4.0-6.0	>6.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	4.0-6.0	>6.0	---	---	None	---	None
			December	0.5-1.5	>6.0	---	---	None	---	None

Table 19.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
WcA:										
Wasda, drained	B/D	Very high								
			January	0.0-1.0	>6.0	---	---	None	---	None
			February	0.0-1.0	>6.0	---	---	None	---	None
			March	0.0-1.0	>6.0	---	---	None	---	None
			April	1.0-2.5	>6.0	---	---	None	---	None
			May	4.0-5.0	>6.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	1.5-4.0	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
Wasda, undrained	B/D	Very high								
			January	0.0-1.0	>6.0	---	---	None	---	None
			February	0.0-1.0	>6.0	---	---	None	---	None
			March	0.0-1.0	>6.0	---	---	None	---	None
			April	0.0-1.0	>6.0	---	---	None	---	None
			May	1.0-2.5	>6.0	---	---	None	---	None
			June	4.0-5.0	>6.0	---	---	None	---	None
			July	4.0-5.0	>6.0	---	---	None	---	None
			August	4.0-5.0	>6.0	---	---	None	---	None
			September	4.0-5.0	>6.0	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	1.0-2.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
Conaby, drained	B/D	Very high								
			January	0.0-1.0	>6.0	---	---	None	---	None
			February	0.0-1.0	>6.0	---	---	None	---	None
			March	0.0-1.0	>6.0	---	---	None	---	None
			April	1.0-2.5	>6.0	---	---	None	---	None
			May	4.0-5.0	>6.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	1.5-4.0	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None

Table 19.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
Conaby, undrained---------	B/D	Very high								
			January	0.0-1.0	>6.0	---	---	None	---	None
			February	0.0-1.0	>6.0	---	---	None	---	None
			March	0.0-1.0	>6.0	---	---	None	---	None
			April	0.0-1.0	>6.0	---	---	None	---	None
			May	1.0-2.5	>6.0	---	---	None	---	None
			June	4.0-5.0	>6.0	---	---	None	---	None
			July	4.0-5.0	>6.0	---	---	None	---	None
			August	4.0-5.0	>6.0	---	---	None	---	None
			September	4.0-5.0	>6.0	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	1.0-2.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
WeA:										
Weeksville, drained-------	B/D	Very high								
			January	0.0-1.0	>6.0	---	---	None	---	None
			February	0.0-1.0	>6.0	---	---	None	---	None
			March	0.5-1.5	>6.0	---	---	None	---	None
			April	1.5-4.0	>6.0	---	---	None	---	None
			May	4.0-5.0	>6.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	1.5-4.0	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
Weeksville, undrained-----	B/D	Very high								
			January	0.0-1.0	>6.0	---	---	None	---	None
			February	0.0-1.0	>6.0	---	---	None	---	None
			March	0.0-1.0	>6.0	---	---	None	---	None
			April	0.0-1.0	>6.0	---	---	None	---	None
			May	1.0-2.5	>6.0	---	---	None	---	None
			June	1.5-4.0	>6.0	---	---	None	---	None
			July	4.0-5.0	>6.0	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	1.0-2.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None

Table 19.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
YeA:										
Yeopim--------------------	C	Low								
			January	1.5-3.0	>6.0	---	---	None	---	None
			February	1.5-3.0	>6.0	---	---	None	---	None
			March	1.5-3.0	>6.0	---	---	None	---	None
			April	2.0-3.0	>6.0	---	---	None	---	None
			May	2.5-3.0	>6.0	---	---	None	---	None
			June	4.0-6.0	>6.0	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	4.0-6.0	>6.0	---	---	None	---	None
			November	2.0-3.0	>6.0	---	---	None	---	None
			December	1.5-3.0	>6.0	---	---	None	---	None

Table 20.—Soil Features

(See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Subsidence: Initial	Subsidence: Total	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In	In	In			
ApA:							
Arapahoe	---	---	0	---	None	High	Moderate
BaA:							
Barclay	---	---	0	---	None	High	Moderate
BcA:							
Belhaven	---	---	2-8	10-26	None	High	High
BeA:							
Bertie	---	---	0	---	None	High	Moderate
BgA:							
Bertie	---	---	0	---	None	High	Moderate
Urban land	---	---	0	---	None	---	---
BoA:							
Bojac	---	---	0	---	None	Low	Moderate
CaA:							
Cape Lookout	---	---	0	---	None	High	Moderate
CfA:							
Cape Lookout	---	---	0	---	None	High	Moderate
ChA:							
Chapanoke	---	---	0	---	None	High	Moderate
CsA:							
Chesapeake	---	---	0	---	None	Moderate	Moderate
CwA:							
Chowan	---	---	0	---	None	High	Moderate
DeA:							
Deloss	---	---	0	---	None	High	High
DoA:							
Dorovan	---	---	6-12	51-80	None	High	High
DrA:							
Dragston	---	---	0	---	None	High	High
DuA:							
Dragston	---	---	0	---	None	Low	High
Urban land	---	---	0	---	None	---	---
GeA:							
Gertie	---	---	0	---	None	High	High
GrA:							
Gertie	---	---	0	---	None	High	High
GtA:							
Gertie	---	---	0	---	None	High	High

Table 20.—Soil Features—Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Subsidence: Initial	Subsidence: Total	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In	In	In			
HyA:							
Hyde	---	---	0	---	None	High	High
MuA:							
Munden	---	---	0	---	None	Low	High
NmA:							
Nimmo	---	---	0	---	None	High	High
NxA:							
Nixonton	---	---	0	---	None	Moderate	Moderate
Yeopim	---	---	0	---	None	High	Moderate
PaA:							
Pasquotank	---	---	0	---	None	High	Moderate
PeA:							
Perquimans	---	---	0	---	None	High	Moderate
PgA:							
Pettigrew	---	---	4-8	8-12	None	High	High
PoA:							
Portsmouth	Strongly contrasting textural stratification	20-40	0	---	None	High	High
PrA:							
Portsmouth	Strongly contrasting textural stratification	20-40	0	---	None	High	High
PuA:							
Pungo	---	---	16-24	36-50	None	High	High
RoA:							
Roper	---	---	1-5	3-15	None	High	High
SeA:							
Seabrook	---	---	0	---	None	Low	Moderate
TeA:							
Tetotum	---	---	0	---	None	High	Moderate
TmA:							
Tetotum	---	---	0	---	None	High	Moderate
Urban land	---	---	0	---	None	---	---
ToA:							
Tomotley	---	---	0	---	None	High	High
TuA:							
Tomotley	---	---	0	---	None	High	High

Table 20.—Soil Features—Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Subsidence: Initial	Subsidence: Total	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In	In	In			
Portsmouth-------------	Strongly contrasting textural stratification	20-40	0	---	None	High	High
Urban land-------------	---	---	0	---	None	---	---
UdA:							
Udorthents, loamy------	---	---	0	---	None	Moderate	Moderate
Ur:							
Urban land-------------	---	---	0	---	None	---	---
WaA:							
Wahee------------------	---	---	0	---	None	High	Moderate
WcA:							
Wasda------------------	---	---	3-7	7-14	None	High	High
Conaby-----------------	---	---	2-8	6-13	None	High	High
WeA:							
Weeksville-------------	---	---	0	---	None	High	High
YeA:							
Yeopim-----------------	---	---	0	---	None	High	Moderate

Table 21.—Taxonomic Classification of the Soils

(An asterisk in the first column indicates a taxadjunct to the series. See text for a description of those characteristics that are outside the range of the series.)

Soil name	Family or higher taxonomic class
Arapahoe	Coarse-loamy, mixed, semiactive, nonacid, thermic Typic Humaquepts
Barclay	Coarse-silty, mixed, semiactive, nonacid, thermic Aeric Endoaquepts
Belhaven	Loamy, mixed, dysic, thermic Terric Haplosaprists
Bertie	Fine-loamy, mixed, semiactive, thermic Aeric Endoaquults
Bojac	Coarse-loamy, mixed, semiactive, thermic Typic Hapludults
Cape Lookout	Fine, mixed, semiactive, thermic Typic Umbraquults
Chapanoke	Fine-silty, mixed, semiactive, thermic Aeric Endoaquults
Chesapeake	Fine-loamy, mixed, semiactive, thermic Typic Hapludults
Chowan	Fine-silty, mixed, active, nonacid, thermic Thapto-Histic Fluvaquents
Conaby	Coarse-loamy, mixed, semiactive, nonacid, thermic Histic Humaquepts
Deloss	Fine-loamy, mixed, semiactive, thermic Typic Umbraquults
Dorovan	Dysic, thermic Typic Haplosaprists
Dragston	Coarse-loamy, mixed, semiactive, thermic Aeric Endoaquults
Gertie	Fine, mixed, semiactive, thermic Typic Endoaquults
Hyde	Fine-silty, mixed, active, thermic Typic Umbraquults
Munden	Coarse-loamy, mixed, semiactive, thermic Aquic Hapludults
Nimmo	Coarse-loamy, mixed, semiactive, thermic Typic Endoaquults
Nixonton	Fine-silty, mixed, active, thermic Typic Hapludults
Pasquotank	Coarse-silty, mixed, semiactive, thermic Typic Endoaquults
Perquimans	Fine-silty, mixed, semiactive, thermic Typic Endoaquults
Pettigrew	Fine, mixed, semiactive, nonacid, thermic Histic Humaquepts
Portsmouth	Fine-loamy over sandy or sandy-skeletal, mixed, semiactive, thermic Typic Umbraquults
Pungo	Dysic, thermic Typic Haplosaprists
Roper	Fine-silty, mixed, semiactive, acid, thermic Histic Humaquepts
Seabrook	Mixed, thermic Aquic Udipsamments
Tetotum	Fine-loamy, mixed, semiactive, thermic Aquic Hapludults
Tomotley	Fine-loamy, mixed, semiactive, thermic Typic Endoaquults
Udorthents	Udorthents
Wahee	Fine, mixed, semiactive, thermic Aeric Endoaquults
Wasda	Fine-loamy, mixed, semiactive, acid, thermic Histic Humaquepts
Weeksville	Coarse-silty, mixed, semiactive, acid, thermic Typic Humaquepts
Yeopim	Fine-silty, mixed, semiactive, thermic Aquic Hapludults

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